

ADDITIONAL NOTES ON THE ERIOCAULACEAE. XXXI

Harold N. Moldenke

LACHNOCAULON GLAERUM Körn.

Additional bibliography: Moldenke, *Phytologia* 20: 36, 40, 41, 46, & 48—52. 1970.

Additional citations: FLORIDA: County undetermined: Cabanis s. n. [Florida] (B—type). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B).

LACHNOCAULON MINUS (Chapm.) Small

Bibliography: A. W. Chapm., *Fl. South. U. S.*, ed. 3, 531. 1897; J. K. Small, *Fl. Southeast. U. S.*, ed. 1, 234, 235, & 1328. 1903; Prain, *Ind. Kew. Suppl.* 3: 99. 1908; J. K. Small, *Fl. Southeast. U. S.*, ed. 2, 234 & 235. 1913; J. K. Small, *Man. Southeast. Fl.* 257. 1933; Moldenke, *N. Am. Fl.* 19 (1): 47 & 49—50. 1937; Moldenke, *Phytologia* 1: 331, 349, 352—354, 356, 357, 362, & 363. 1939; A. C. Martin, *Am. Midl. Nat.* 36: 533, pl. 4. 1946; Moldenke, *Alph. List Cit.* 1: 37, 90, 139, 240, 257, 283, 284, 287, & 290. 1946; Moldenke, *Known Geogr. Distrib. Erioc.* 2, 3, & 42. 1946; Moldenke, *Phytologia* 2: 373. (1947) and 2: 491. 1948; Moldenke, *Alph. List Cit.* 2: 459—461, 478, 480, 508, & 631 (1948), 3: 760, 772, 777, 822, 841, 899, & 942 (1949), and 4: 1114, 1118, 1125, 1126, 1135, 1175, 1177, 1191, & 1296. 1949; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 7—9 & 207. 1949; Moldenke, *Phytologia* 3: 80 & 142 (1949) and 3: 495—496. 1951; Thorne, *Am. Midl. Nat.* 52: 282. 1954; Moldenke, *Résumé* 10, 11, 13, 302, & 484. 1959; Moldenke, *Résumé Suppl.* 1: 2 (1959) and 4: 2 & 4. 1962; Radford, Ahles, & Bell, *Vasc. Fl. Carol.* 106 & 107. 1964; R. Kral, *Sida* 2: 315, 316, 321—323, 325, & 331. 1966; Shinners, *Sida* 2: 443. 1966; Moldenke, *Résumé Suppl.* 16: [1]. 1968; Eleuterius & Jones, *Rhodora* 71: 31. 1969; Moldenke, *Phytologia* 18: 381 (1969), 19: 232 (1970), and 20: 35, 36, 41, 46, 49, 50, & 52. 1970.

Illustrations: A. C. Martin, *Am. Midl. Nat.* 36: pl. 4. 1946; R. Kral, *Sida* 2: 322. 1966.

Radford, Ahles, & Bell (1964) say that in the Carolinas this species flowers from May to October and is found in "Bogs, ditches, savannahs, low pinelands" on the coastal plain. In Georgia Thorne (1954) states that it is infrequent on the margins of ponds and open grassy of boggy areas. Other collectors have found it in low grassy meadows, sandy-peaty pond margins, moist soil at edge of lily ponds, damp pine barrens, the edges of limestone sinks, sandy oak woods, and pond margins in general, flowering and fruiting from May to September and November. Harper says that it is "common around edges of small lakes among high sandy hills"; Godfrey found it on "shores of pond" and on "sandy-peaty shores of sinkhole lake"; Godfrey & Fox found it "very abundant on sandy pond margins"; while Webster avers that it is "common in low sandy areas bordering de-

pressions on dunes of white sand with low scrub of Quercus, Persea, Bumelia, Befaria, etc. Curtiss found it "spreading flat" on moist cultivated ground and thought that it had been introduced, identifying it as Paepalanthus pilulifer Körn. and noting that it was supposedly native to Brazil. Tomlinson encountered it "in wet sand at margin of lake, not inundated and forming a more or less continuous peripheral zone".

Kral, on the labels of his collections, describes the plant as tufted and the inflorescence-head dull or dull gray-brown. He found the plant "in sandy peat of roadbank seepage in longleaf pine flatwoods", "on sandy-peaty shore of small lake in longleaf pine - turkey oak hills, mixed with L. engleri", "in wet sands of borrow pit in pine flatwoods", "in moist sandy peat of bank of pine - saw palmetto flatwoods pond", and "very abundant on sandy upper margin of pineland limesinks". Most important, however, are his comments on the label accompanying Kral 17747, where he says "on sandy shore of small lake forming a brown 'fuzz' along the upper shore; this mixed with chocolate heads of L. engleri; this is the plant Small called L. eciliatum and it may be that hybrids between L. minus and L. engleri do fit Small's description".

In his 1966 work Kral states that L. minus grows in "Sands, sandy-peats and peatmuck of margins of pineland woods, ditch-banks, lakeshores, or moist exposed sands of mildly acid seepage areas and mildly acid marshes along the seacoast, coastal plain, Florida, n. to North Carolina. Type. 'low pine barrens, Bristol, Liberty Co., Florida, Chapman'. At NY. This species may occur in mixed populations with L. anceps or L. engleri. It is distinguished from the former by its smaller stature, smaller, darker heads, and by the translucent rather than white-opaque, clavate trichomes on bracts and sepals. It is distinguished from the latter by its paler-brown heads and by its usually hairy scapes. L. minus appears to require more moisture than L. anceps; I have yet to find it in drier flatwoods localities in which L. anceps may abound. Examination by this writer of the type of L. eciliatum Small (Curtiss, N. A. Pl. no. 3022) resulted in a decision to treat such material as L. minus, in that the only difference appears to be one of degree of pubescence on bracts and sepals of female flowers together with slight differences in length of parts (all of which are accrescent in Eriocaulaceae)."

Chapman's original (1897) description of this taxon is "Scapes 2'—3' high, heads 1 1/2" wide. — Low pine barrens, Bristol, Florida, May—July." Material has been misidentified and distributed in herbaria under the names L. beyrichianum Sporleder, L. glabrum Körn., L. michauxii Kunth, and Eriocaulon septangulare With. On the other hand, the Ahles 456/48, J. A. Drushel 10812, S. B. Jones s.n. [7 May 1960], Kral & Kral 6918, Meebold 28098, 28103, & 28104, Oosting 3555, A. E. Radford 4095, Radford & Stew-

art 401 & 455, P. O. Schallert 5447, and Singletary s.n. [Feb. 29, 1936], distributed as L. minus, are all L. anceps (Walt.) Morong, while Buell & West 1742 and R. K. Godfrey 4680 are L. beyrichianum Sporleder.

Additional citations: NORTH CAROLINA: Bladen Co.: Davis & Davis 10498 (Se—162560); Fox & Godfrey 2644 (N); A. A. Haller 11102 (Se—88012). Brunswick Co.: Blomquist 15295 (Ca—946476); Blomquist, Godfrey, & Wilbur 15295 (N); Bradley & Stevenson 3306 (N, Se—230947); R. K. Godfrey 49350 (No—17449), 49390 (No—16390); Godfrey & Fox 49742 [South. Appal. Bot. Club Distrib. 9: 822] (Hi—149069, N, No—18856, No—24446, We, We). Cumberland Co.: Fox & Godfrey 2592 (N). New Hanover Co.: C. R. Bell 12973 (Hi—134739); R. K. Godfrey s.n. [Plant. Exsicc. Gray. 926] (Ca—741292, Hi—22050, Hi—53894, Ms—80430, N, Ok, S, St, Ws); McCarthy s.n. [Wilmington, June 1892] (Ca—202402). Onslow Co.: R. Kral 22472 (N). Pender Co.: Ahles & Leisner 32488 (Hi—134746). SOUTH CAROLINA: Bamberg Co.: Ahles & Haesloop 30588 (Hi—134741, N). Berkeley Co.: Ahles & Haesloop 30793 (Hi—136139). Georgetown Co.: R. Kral 19018 (N). Jasper Co.: Ahles & Bell 18090 (Hi—97134). GEORGIA: Baker Co.: R. F. Thorne 4363 (N, Vi), 5047 (Mi, We), 5066 (Ca—906390). FLORIDA: Duval Co.: Curtiss 6201 (Hi, S). Franklin Co.: R. Kral 2818 (N). Highlands Co.: Tomlinson 10-6-63 K (Ft—271); G. L. Webster 4179 (N). Lake Co.: R. M. Harper 42 (W—513523); G. V. Nash 148 (Ca—115162, Mm—7950, Ms—15407), 1295 (Ca—115163, Mm—7949, Ms—15498), 1855 (Ms—15499). Leon Co.: R. K. Godfrey 53502 (N), 62896 (Ft—273), 63238 (Ft—274); Kral & Godfrey s.n. [15 Aug. 1962] (N). Orange Co.: P. O. Schallert S. 447 (Se—201764); Wilbur & Webster 2645 (Mi, N). Pasco Co.: Wiegand 7784 (S). Polk Co.: McFarlin 6060 (Mi); P. O. Schallert s.n. [April 30, 1941] (Ca—841817). Seminole Co.: R. Kral 20457 (N); P. O. Schallert 5447 (Ut—89778b). Volusia Co.: Curtiss 6894, in part (S, W—394791); R. Kral 18427 (N). Wakulla Co.: R. K. Godfrey 55667 (N). Walton Co.: Curtiss 5911 (Ca—144667, Dt, Hi, S); R. Kral 17747 (N); F. H. Sargent s.n. [June 19, 1950] (Ws).

LEIOTHRIX Ruhl.

Synonymy: Stephanophyllum Guill. in Deless., Icon. Sel. 3: 61, nom. provis. 1837. Leiothryx Ruhl. apud Beauverd, Bull. Herb. Boiss., sér. 2, 8: 298, sphalm. 1908. Eriocaulon Auct. (in part) apud Stapf, Ind. Lond. 3: 90, in syn. 1930 [not Eriocaulon Gron., 1743, nor (Gron.) L., 1908, nor Juss., 1810, nor L., 1816, nor Mart., 1959]. Leithrix Angely, Liv. Gen. Bot. Bras. 48a, sphalm. 1960. Leothrix Barkley, List Ord. Fam. Anthoph., ed. 2, 113 & 179, in syn. sphalm. 1965. Leiothrix Moldenke ex J. A. Steyererm., Act. Bot. Venez. 1: 98, sphalm. 1966. Stephanophyllum Poul., in

herb.

Bibliography: Wikstr., Svensk. Vet. Acad. Handl. Stockh., ser. 2, 1820: 79, pl. 4. 1820; Roem. & Schult. in L., Mant. 2: 468. 1824; Spreng. in L., Syst. Veg., ed. 16, 3: 776. 1826; Bong., Ess. Monog. Erioc. 5, 8, 26—28, 32, & 34. 1831; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 626—628, 632, & 634, pl. 45 & 47 (1831) and 2 (3): 234—236, pl. 19. 1832; Bong., Ess. Monog. Erioc. 71—74. 1832; A. St. Hil., Voy. Distr. Diam. 1: 391. 1833; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 3: 553, pl. 24 & 26. 1835; Guill. in Deless., Icon. Sel. 3: 60—61 & 67, pl. 98. 1837; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 5: 13, pl. 24, 28, 28a, 29, & 35. 1839; Steud., Nom. Bot., ed. 2, 1: 585 & 586. 1840; Mart., Flora 24, Beibl. 2: 58. 1841; Kunth, Enum. Pl. 3: 522—524, 526, 530, 538, 539, 572, 574, 575, 577, & 578. 1841; Lindl., Veg. Kingd., ed. 1, 122 (1846) and ed. 2, 122. 1847; Klotzsch in Schomb., Faun. & Fl. Br. Guian. 1064. 1848; Steud., Syn. Pl. Glum. 2: [Cyp.] 276—281, 333, & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 278, 282, 294—297, 308, 309, 415, 417—429, 463, 500, 502, & 505—508, pl. 53—55. 1863; V. A. Pouls., Vidensk. Medd. Kjøbenh. 224 & 350. 1888; Hieron. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 2 (4): 22. 1888; Wawra, Itin. Princ. Saxo-Coburg. 2: 97, pl. 13. 1888; Kuntze, Rev. Gen. Pl. 2: 745 & 746. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 877—879 (1893), 2: 401 & 402 (1894), and 2: 992. 1895; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 2, 3, 14—16, 19—22, 25—30, 121, 165, 225—239, & 285—288, fig. 33 & 34. 1903; Durand. & Jacks., Ind. Kew. Suppl. 1, pr. 1, 310 (1903) and 483. 1906; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv., Fl. Serr. Min. 68—69, pl. 26 & 27. 1908; Beauverd, Bull. Herb. Boiss., sér. 2, 8: 296—299, fig. 12 B & C. 1908; Prain, Ind. Kew. Suppl. 4, pr. 1, 138. 1913; Lützelburg, Estud. Bot. Nordéste 3: 147, 148, & 150. 1924; Herzog in Fedde, Repert. Spec. Nov. 20: 88. 1924; Alv. Silv., Fl. Mont. 1: 276—307, 398—400, & Ind. [1]—2, pl. 182—195. 1928; A. W. Hill, Ind. Kew. Suppl. 7: 135. 1929; Stapf, Ind. Lond. 3: 90 & 91 (1930) and 4: 67, 518, & 519. 1930; Ruhl. in Engl. & Prantl, Nat. Pflanzenfam., ed. 2, 15a: 40, 41, 43, 45, 46, 48, 49, 53, & 54, fig. 21. 1930; Herter, Flora 44. 1930; A. W. Hill, Ind. Kew. Suppl. 8: 133 (1933) and 9: 156. 1938; Nakai & Honda, Nov. Fl. Jap. 6: 4 & 87. 1940; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145, 310, & 483. 1941; Worsdell, Ind. Lond. Suppl. 2: 38. 1941; Castell. in Descole, Gen. & Sp. Pl. Argent. 3: 76 & 104. 1945; Abbiatti, Rev. Mus. La Plata Bot., new ser., 6: [311] & 321. 1946; Moldenke, Known Geogr. Distrib. Erioc. 6, 8, 9, 20, 28—37, 39—45, 47—56, & 60. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 877—879 (1946) and 2: 401, 402, & 992. 1946; Moldenke, Alph. List Cit. 1: 105, 222, 224, 250, & 412. 1946; Moldenke, Phytologia 2: 374 & 379 (1947) and 2: 492, 495, 496, & 499. 1948; Moldenke, Alph. List Cit. 3: 671, 710, 731, 781, 814, 855, 935, 975, & 976 (1949) and 4: 1134, 1176, 1297, 1301, & 1302. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 63, 66, 78, 79, 97, 100, & 207. 1949; Moldenke, Phytologia 3: 311

& 313--314 (1950) and 3: 496--500. 1951; Moldenke, Fieldiana 28: 118--120. 1951; Moacyr do Amaral Lisboa, Revist. Esc. Minas 9. 1951; E. J. Salisb., Ind. Kew. Suppl. 11: 133. 1953; Herter, Rev. Sudam. Bot. 9: 188. 1954; Rambo, Sellowia 6: 130. 1954; F. C. Hoehne, Pl. Aquat. 88. 1955; Mendes Magalhães, Anais V Reun. Anual Soc. Bot. Bras. 234, 266--267, 276--277, & 303. 1956; Reitz, Sellowia 7: 124. 1956; Angely, Cat. Estat. 10: [2]. 1956; Angely, Fl. Paran. 10: 6, 8, 9, 11, 12, & 14. 1957; Moldenke, Mem. N. Y. Bot. Gard. 9: 278--279. 1957; Moldenke in J. A. Steyerl., Fieldiana 28: 824. 1957; J. A. Steyerl., Fieldiana 28: 1157. 1957; Prain, Ind. Kew. Suppl. 4, pr. 2, 138. 1958; Reitz, Sellowia 11: 31 & 112. 1959; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145, 310, & 483. 1959; G. Taylor, Ind. Kew. Suppl. 12: 79. 1959; Moldenke, Résumé 71, 75, 91, 92, 114, 119, 279--282, 286--293, 309, 318, 323--329, 355, 395--398, 402, 484, & 485. 1959; Moldenke, Résumé Suppl. 1: 6, 17, & 20--23 (1959) and 2: 5. 1960; Angely, Liv. Gen. Bot. Bras. 19 & 48a. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 877--879 (1960) and 2: 401, 402, & 992. 1960; Moldenke, Bol. Mus. Para. Goeldi, new ser., Bot. 3: 1. 1960; Rennó, Levant. Herb. Inst. Agron. 69. 1960; Angely, Fl. Paran. 15: 14 (1960), 16: 59 (1960), and 17: 24. 1961; Reitz, Sellowia 13: 52, 53, 72, & 90. 1961; Angely, Fl. Bacia Paran. 22: 31. 1962; Moldenke, Biol. Abstr. 37: 2453. 1962; Hocking, Excerpt. Bot. A.4: 284. 1962; Moldenke, Phytologia 8: 162. 1962; Moldenke, Résumé Suppl. 3: 12, 13, & 33 (1962) and 7: 4. 1963; Hegnauer, Chemotax. Pfl. 2: 153. 1963; Hocking, Excerpt. Bot. A.6: 455. 1963; Angely, Bibl. Veg. Paran. 253. 1964; Melchior in Engl., Syllab. Pfl., ed. 12, 2: 556. 1964; Thanikaimoni, Pollen & Spores 7: 182, 183, 185, 186, & 190, tab. 1. 1965; F. A. Barkley, List Ord. Fam. Anthoph., ed. 2, 113 & 179. 1965; Thanikaimoni, Mém. Mus. Nat. Hist. Nat. Paris, new ser., B.14: 9--38. 1965; Angely, Fl. Anal. Paran., ed. 1, 201. 1965; Moldenke, Résumé Suppl. 12: 3, 4, 10, & 11 (1965), 13: 3 (1966), and 14: 9. 1966; Airy Shaw in Willis, Dict. Flow. Pl., ed. 7, 633 & 1074. 1966; J. A. Steyerl., Act. Bot. Venez. 1 (3/4): 15, 22, 69, & 98. 1966; Thanikaimoni, Biol. Abstr. 47: 4169. 1966; G. Taylor, Ind. Kew. Suppl. 13: 78. 1966; Moldenke, Biol. Abstr. 47: 6792. 1966; Moldenke, Phytologia 13: 218 (1966) and 17: 495 & 509. 1968; Moldenke, Résumé Suppl. 16: 23 (1968), 17: 3 & 9--11 (1968), and 18: 13. 1969; Moldenke, Phytologia 18: 366 & 507 (1969) and 19: 102. 1969; Angely, Fl. Anal. & Fitogeogr. Est. S. Paulo, ed. 1, 1: 11. 1969.

Gleason, in his unpublished Flora of British Guiana, describes this genus as follows: "Flowers 3-merous; sepals distinct; petals of the staminate flowers 3, connate nearly to the middle into a funnel-shaped, 3-lobed tube; petals of the pistillate flowers free; style long, bearing 3 appendages inserted conspicuously below its summit; stigmas 3, apical, short, simple. Acaulescent herbs with linear, cespitose leaves; peduncles erect, sheathed at base; heads subglobose (28 species, in tropical America)."

The generic name is derived from the Greek, $\lambda\epsilon\iota\omicron\varsigma$, smooth, and $\Theta\rho\iota\varsigma$ hairs, since the hairs are not granulated nor tuberculate.

Herter (1954) claimed that the genus had 30 species, while Angely (1956) gives the number as 82. In his 1957 work he says that 74 species occur in Brazil -- 2 in Pernambuco, 1 in Alagoas, 1 in Goiás, 8 in Bahia, 64 in Minas Gerais, 4 in Rio de Janeiro, 3 in São Paulo, and 2 in Paraná. Actually, as of the present writing, the genus comprises 88 valid taxa of both specific and subspecific rank, of which 68 occur in Minas Gerais, 10 in Bahia, 8 in Rio de Janeiro, 4 in São Paulo, 3 in Guanabara, 2 each in Paraná and Santa Catarina, and 1 each in Alagoas, Goiás, Pará, Paraíba, Pernambuco, and Rio Branco.

Stephanophyllum Guill. is obviously the older name for this genus, but under the present unfortunate edition of the International Rules of Botanical Nomenclature it must be rejected as not having been adopted definitely and unequivocally by its author when proposed. A strict application of this rule would actually invalidate scores of presently accepted names in the plant kingdom. The original publication by Guillemain (1837) reads as follows and is given in the discussion of his new species, Eriocaulon flagellare Guill.: "Obs. Inter species proliferas à cl. Bongard (Mem. Acad. imp. Petersb., 6^e série, 1, p. 632) evulgatas, Eriocaulon flagellare nostrum adnumerandum est, ipisque (E. viviparum et E. proliferum) quae tantum phrasi specificâ mihi notae sunt, valde affine, nonnisi glabritie, vaginarumque brevitate ab iis differre videtur. In stirpibus proliferis florum fabrica à caeteris Eriocaulis paulò diversa, simul ac habitus peculiaris, characteres afferunt setis distinctos ut indè genus novum inter Eriocaulon et Toninam collocandum constituatur, cui nomen Stephanophyllum imponendum erit." He does not actually make the new combinations in Stephanophyllum accredited to him at this bibliographic reference by Jackson in the "Index Kewensis" (1895), nor does the new generic name even occur in the index to Guillemain's work!

It is worth noting here that that, for some reason unknown to me, Airy Shaw (1966) places the generic name Stephanophyllum Guill. in the synonymy of Paepalanthus instead of Leiothrix. There is absolutely no possible reason for placing it anywhere except under Leiothrix since the only three species mentioned in the original publication of it are all typical members of the latter genus.

LEIOTHRIX AFFINIS Alv. Silv.

Synonymy: Leiothrix afinis Alv. Silv., Fl. Mont. 1: 398, sphalm. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 286 & 398. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Moldenke, Known Geogr. Distrib. Erioc. 8 & 42. 1946; Moldenke, Phytologia 2: 495. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Résumé 91, 309, & 484. 1959.

The type of this species was collected by Álvaro Adolpho da Silveira (no. 677) in fields near Baraunas, Minas Gerais, Brazil,

in April, 1918, and is deposited in the Silveira Herbarium. This distinguished worker, in his 1928 publication, says of this species "A. L. tenuifolia Alv. Silv. foliis rigidioribus (non membranaceis), pedunculis glabris tortisque, sepalis quam petala brevioribus et appendicibus basin stigmatum superantibus differt".

LEIOTHRIX AMAZONICA Moldenke

Bibliography: Moldenke, Résumé 91 & 484. 1959; Moldenke, Bol. Mus. Para. Goeldi, new ser., Bot. 3: 1. 1960; Hocking, Excerpt. Bot. A. 4: 284. 1962; Moldenke, Biol. Abstr. 37: 2453. 1962; G. Taylor, Ind. Kew. Suppl. 13: 78. 1966.

Citations: BRAZIL: Pará: Murça Pires, Black, Wurdack, & Silva 6097 (N--type).

LEIOTHRIX ANGUSTIFOLIA (Körn.) Ruhl.

Synonymy: Paepalanthus angustifolius Körn. in Mart., Fl. Bras. 3 (1): 424. 1863. Dupatya angustifolia (Körn.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Dupatya angustifolia Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix angustifolia Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 424--425 & 506. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 401. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 231, & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1911; Moldenke, Known Geogr. Distrib. Erioc. 8, 28, 42, & 44. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 2: 401. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Résumé 91, 279, 323, & 484. 1959; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 2: 401. 1960; Moldenke, Résumé Suppl. 12: 10. 1965.

Ruhland (1903) cites as the type collection of this taxon, Blanchet 3820, from São Thomé, Bahia, Brazil, and thus far the species is known only from this collection.

Citations: BRAZIL: Bahia: Blanchet 3820 [Macbride photos 10665] (B--isotype, Br--isotype, Mi--isotype, N--isotype, N--photo of type, W--photo of type).

LEIOTHRIX ARAXAËNSIS Alv. Silv.

Synonymy: Leiothrix araxaensis Alv. Silv., Fl. Mont. 1: 398. 1928.

Bibliography: Alv. Silv., Fl. Mont. 1: 307--308 & 398, pl. 195. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Worsdell, Ind. Lond. Suppl. 2: 38. 1941; Moldenke, Known Geogr. Distrib. Erioc. 8 & 42. 1946; Moldenke, Phytologia 2: 495. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Résumé 91, 309, & 484. 1959.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 195. 1928.

The type and only known specimen of this species was collected

by Dr. J. Michaeli in fields near Araxá, Minas Gerais, Brazil, in April of [1919 or] 1920, and is no. 714 in the *Silveira Herbarium*. The author on page 308 of his work (1928) gives the year of collection as "1920", but on page 398 gives it as "1919".

LEIOTHRIX ARECHAVALETAE Ruhl.

Synonymy: *Paepalanthus arechavaletae* Ruhl. ex Moldenke, *Known Geogr. Distrib. Erioc.* 45, in syn. 1946. *Leiothrix arechavaletae* (Körn.) Ruhl. apud Herter, *Rev. Sudam. Bot.* 9: 188. 1954. *Paepalanthus arechavaletae* Körn. ex Moldenke, *Résumé* 323, in syn. 1959.

Bibliography: Ruhl. in Engl., *Pflanzenreich* 13 (4-30): 235, 238--239, & 288. 1903; Prain, *Ind. Kew. Suppl.* 3: 101. 1908; Ruhl. in Engl. & Prantl, *Nat. Pflanzenfam.*, ed. 2, 15a: 54. 1930; Herter, *Florula* 44. 1930; Moldenke, *Known Geogr. Distrib. Erioc.* 20, 43, & 45. 1946; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 100 & 207. 1949; Moldenke, *Alph. List Cit.* 3: 671 & 781 (1949) and 4: 1302. 1949; Moldenke, *Phytologia* 3: 496--497. 1951; Herter, *Rev. Sudam. Bot.* 9: 188. 1954; Moldenke, *Résumé* 119, 323, & 484. 1959.

Ruhland (1903) cites for this taxon only the type collection, *Arechavaleta 2561*, from Uruguay. The species appears to be endemic to that country, where it has been collected in swamps and in sandy soil by sweet water at altitudes of 2--4 meters, flowering and fruiting in April and from November to January. Herter (1954) says that it is frequent in the southern portion of Uruguay and cites Herter 1774, 1774a, & 1774b.

Additional citations: URUGUAY: *Arechavaleta 2561* (B--type), s. n. [Bañado de Tranqueras, Nov.] (S), s. n. [prope Carrasco; Macbride photos 25163] (N--photo, W--photo); Herter 1774 [Herb. Herter 95663] (B, Mu, Mu, S, Ut--30971a, W--1934817), 1774b [Herb. Herter 99863] (N, S); *Osten 7051* (S), 22207 (Er, S). MOUNTED ILLUSTRATIONS: Herter, *Fl. Urug.* fig. 768 (Mu).

LEIOTHRIX ARETIODES Ruhl.

Bibliography: Ruhl. in Engl. & Prantl, *Nat. Pflanzenfam.*, ed. 2, 15a: 41. 1930.

This name, published without diagnosis, is probably a synonym of *Paepalanthus aretioides* Ruhl.

LEIOTHRIX ARGENTEA Alv. Silv.

Bibliography: Alv. Silv., *Fl. Mont.* 1: 296 & 398. 1928; A. W. Hill, *Ind. Kew. Suppl.* 9: 156. 1938; Moldenke, *Known Geogr. Distrib. Erioc.* 8 & 43. 1946; Moldenke, *Alph. List Cit.* 1: 412 (1946) and 3: 935. 1949; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 78 & 207. 1949; Moldenke, *Phytologia* 3: 497. 1951; Moldenke, *Résumé* 91 & 484. 1959.

Mrs. Chase found this plant growing in a colony in damp sand among rocks on the open summit of a mountain, at 1400 meters altitude, flowering and fruiting in December. Material has been

misidentified and distributed in herbaria as Syngonanthus pallens Alv. Silv.

The type of the species was collected by Álvaro Adolpho da Silveira (no. 533) in sandy wet fields in the Serra dos Crystaes, near Diamantina, Minas Gerais, Brazil, in April, 1908, and is deposited in the Silveira Herbarium. Silveira (1928) says of the species: "Species ab omnibus generis distinctissima".

Additional citations: BRAZIL: Minas Gerais: M. A. Chase 10360 (Mi, W--1495692); A. Silveira 533 [Herb. Marie-Victorin 12424] (N--photo of isotype).

LEIOTHRIX ARGYRODERMA Ruhl.

Synonymy: Leiothyryx argyroderma Ruhl. apud Beauverd, Bull. Herb. Boiss., sér. 2, 8: 298, sphalm. 1908.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 226, 227, & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Beauverd, Bull. Herb. Boiss., sér. 2, 8: 298. 1908; Alv. Silv., Fl. Mont. 1: 398. 1928; Moldenke, Known Geogr. Distrib. Erioc. 8 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Résumé 91 & 484. 1959; Moldenke, Résumé Suppl. 1: 6. 1959.

Ruhland (1903) cites only the type collection of this species, Ule 3769, from Santa Catarina, Brazil. More recent collectors have found the plant growing in wet soil, at 2000--2500 meters altitude, flowering and fruiting from January to March and in May and July. Silveira (1928) cites his no. 417, collected at Serra da Mantiqueira, Minas Gerais, in 1897.

Citations: BRAZIL: Rio de Janeiro: Castellanos 25664 [Herb. Cent. Pesq. Florest. 4346] (Ac); Dusén 252 (S); Hemmendorff 579 1/2 (S); Segadas-Vianna 800 (Ja), 5031 [Brade 20367] (Sm); Segadas-Vianna, Dau, Ormond, & Machline 1424 (Z); L. B. Smith 1695 (N, S). Santa Catarina: Ule 3769 [Macbride photos 10666] (B--type, B--isotype, N--photo of isotype, N--photo of isotype, W--photo of isotype, Z--isotype).

LEIOTHRIX ARGYRODERMA var. BREVIPIPES Moldenke

Bibliography: Moldenke, Phytologia 8: 162. 1962; Moldenke, Résumé Suppl. 3: 13. 1962; Hocking, Excerpt. Bot. A.6: 455. 1963.

It is worth noting here that the isotype of this variety deposited in the herbarium of the Muséum National d'Histoire Naturelle at Paris bears a label which is inscribed "Province de Rio de Janeiro", but what the evidence is on which this statement is made remains obscure.

Citations: BRAZIL: Minas Gerais: Glaziou 9000 [U. S. Nat. Herb. photo 5889] (N--photo of type, P--type, P--isotype, Z--isotype).

LEIOTHRIX ARRECTA Ruhl.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 235--236 & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv.,

Fl. Mont. 1: 304 & 306. 1928; Moldenke, Known Geogr. Distrib. Erioc. 8 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Phytologia 3: 497. 1951; Moldenke, Résumé 91 & 484. 1959.

Ruhland (1903) cites only the type collection of this species, Glaziou 17303, from Minas Gerais, Brazil. Silveira (1928) comments that, in his opinion, L. arrecta is closely related to L. dubia Alv. Silv. and to L. michaelii Alv. Silv.

Additional citations: BRAZIL: Minas Gerais: Glaziou 17303 [Macbride photos 10667] (B--type, Br--isotype, N--isotype, N--photo of type, W--photo of type); Maguire, Mendes Magalhães, & Maguire 49065 (N).

LEIOTHRIX ARRECTA var. SENAANA Ruhl.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 236 & 288. 1903; Moldenke, Known Geogr. Distrib. Erioc. 8 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Résumé 91 & 484. 1959.

Ruhland (1903) cites only two cotype collections, actually gathered by Sena, but distributed as Herb. Schwacke 14571 & 14575, and from Minas Gerais, Brazil. Ruhland notes that "Differt a forma typica pedunculis brevissime pilis patentibus sparsius pilosis, robustioribus". Recent collectors describe the plant as "acaulescent" and found it growing in wet campos, campo slopes, and sandstone outcrops, at 1250 meters altitude.

Citations: BRAZIL: Minas Gerais: Irwin, Maxwell, & Wasshausen 20481 (Z); Sena s.n. [Herb. Schwacke 14571] (B--cotype), s.n. [Herb. Schwacke 14575] (B--cotype, Z--cotype).

LEIOTHRIX BARREIRENSIS Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 283--284 & 398. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Moldenke, Known Geogr. Distrib. Erioc. 8 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Résumé 91 & 484. 1959.

The type and only known collection of this species was gathered by Dr. J. Michaeli in sandy fields near Barreiras, Minas Gerais, Brazil, in November, 1923, and is his no. 732, deposited in the Silveira Herbarium. Silveira (1928) says of it: "Species a L. cuirvifolia (Bong.) Ruhl. foliis latioribus facile distinguenda; a L. graminea (Bong.) Ruhl. ob statura majorem, vaginas pubescentes et stylum triplo germine longiorem differt".

LEIOTHRIX BECKII (Szysz.) Ruhl.

Additional synonymy: Paepalanthus beckii Szysz. ex Wawra, Itin. Princ. Saxo-Coburg. 2: 97. 1888. Paepalanthus itatiaiae Körn. ex V. A. Pouls., Vidensk. Medd. Kjøbenhavn. 1888: 224. 1888. Leiothrix beckii Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908.

Bibliography: Wawra, Itin. Princ. Saxo-Coburg. 2: 97, pl. 13.

1888; V. A. Pouls., Vidensk. Medd. Kjøbenh. 1888: 224 & 350. 1888; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 310. 1903; Ruhl. in Engl., Pflanzenreich 13 (4-30): 3, 226--227, 236, & 288. 1903; Beauverd, Bull. Herb. Boiss., sér. 2, 8: 296 & 297. 1908; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv., Fl. Mont. 1: 398. 1928; Stapf, Ind. Lond. 4: 518. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 310. 1941; Moldenke, Known Geogr. Distrib. Erioc. 8, 43, 45, & 50. 1946; Moldenke, Phytologia 2: 495. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Phytologia 3: 497. 1951; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 310. 1959; Moldenke, Résumé 91, 318, 323, 325, & 484. 1959.

Illustrations: Wawra, Itin. Princ. Saxo-Coburg. pl. 13. 1888.

Ruhland (1903) cites for this species Glaziou 6741 & 17313, Magalhães 1366, Prince von Sachsen-Coburg II.502, and Ule 3506, all from Minas Gerais, Brazil. Silveira (1928) cites A. Silveira 271, collected at Serra do Ibitipoca, Minas Gerais, in 1896.

The species has been found growing in turf, at altitudes of 2000 to 2600 meters, flowering and fruiting in January and May. The Williams & Assis 6924, distributed as L. beckii, is actually L. nubigena (Kunth) Ruhl.

Additional citations: BRAZIL: Minas Gerais: Glaziou 6741 [Macbride photos 22283] (N--photo, W--photo), 17313 (B); Prince von Sachsen-Coburg s.n. [Itatiaia] (B); Ule 3506 (B), 61-2194 [Herb. Mus. Nac. Rio Jan. 56] (N, S). Rio de Janeiro: Castellanos 25666 [Herb. Cent. Pesq. Florest. 4341] (Ac); Glaziou 5713 (P); Segadas-Vianna 5029 [Brade 20369] (Ja), 5033 [Brade 20368] (Ja, Z); L. B. Smith 1752 (S, W-1730732).

LEIOTHRIX BECKII var. FALCIFOLIA Beauverd

Synonymy: Leiothrix beckii falcifolia P. Beauv. apud Stapf, Ind. Lond. 4: 67. 1930. Leiothrix beckii var. falcifolius Beauverd ex Moldenke, Known Geogr. Distrib. Erioc. 8 & 43, sphalm. 1946.

Bibliography: Beauverd, Bull. Herb. Boiss., sér. 2, 8: 296--298, fig. 12 B. 1908; Stapf, Ind. Lond. 4: 67. 1930; Moldenke, Known Geogr. Distrib. Erioc. 8 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Résumé 91 & 484. 1959.

Illustrations: Beauverd, Bull. Herb. Boiss., sér. 2, 8: 296, fig. 12 B. 1908.

How Stapf (1930) could possibly have accredited this trinomial to Ambrose Marie François Joseph de Beauvois (1752--1820) instead of to Gustave Beauverd (1867--1942) is inexplicable to me. He has, however, done this in several instances.

LEIOTHRIX CELIAE Moldenke

Bibliography: Moldenke, Mem. N. Y. Bot. Gard. 9: 278--279. 1957; Moldenke, Résumé 71 & 484. 1959; G. Taylor, Ind. Kew. Suppl. 13: 78. 1966.

Citations: VENEZUELA: Amazonas: Maguire & Maguire 35314 (N-type).

LEIOTHRIX CRASSIFOLIA (Bong.) Ruhl.

Synonymy: Eriocaulon crassifolium Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 634. 1831. Paepalanthus crassifolius (Bong.) Körn. in Mart., Fl. Bras. 3 (1): 420. 1863. Dupatya crassifolia (Bong.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Paepalanthus crassifolius Körn. apud Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 401. 1894. Dupatya crassifolia Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix crassifolia Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908.

Bibliography: Bong., Ess. Monog. Erioc. 34. 1831; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 634 (1831) and 5: pl. 29. 1839; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 577, 578, & 613. 1841; D. Dietr., Syn. Pl. Glum. 2: [Cyp.] 280 & 333. 1855; Körn. in Mart., Fl. Bras. 3 (1): 296, 420, 507, & 508. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 878 (1893) and 2: 401. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 10, 227-229, & 285. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv., Fl. Mont. 1: 398. 1928; Stapf, Ind. Lond. 3: 90. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Erioc. 8, 29, 33, 43, & 47. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 878 (1946) and 2: 401. 1946; Moldenke, Alph. List Cit. 1: 412 (1946) and 3: 935. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Phytologia 3: 497. 1951; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 91, 279, 287, 324, & 484. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 878 (1960) and 2: 401. 1960.

Illustrations: Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 5: pl. 29. 1839.

The type of this species was collected "In glareosis Meia da Serra da Lapa", Minas Gerais, Brazil, according to Bongard (1831), but Ruhland (1903) cites only L. Riedel 1413, which apparently is the type collection, since Bongard consistently failed to cite collection numbers. Recent collectors have found this species in wet places and describe it as actually "common" on moist hill-sides, in white sand, and on sandy campos with outcrops. They refer to it as "acaulescent, the inflorescence 5-7 cm. tall, heads white, flowers cream", growing at 1200 meters altitude, flowering and fruiting in February. Silveira (1928) cites A. Silveira 337 [or "387?"] from Serra do Cipó, Minas Gerais, collected in 1905.

Additional citations: BRAZIL: Minas Gerais: A. P. Duarte 7799 (Bd-27769); Heringer & Castellanos 6174 (B); Irwin, Maxwell, & Wasshausen 20054 (Ac, N), 20073 (N, Rf); Macedo 2958 (N, S); Murça Pires & Black 3345 (Z); L. Riedel 1413 (B-isotype); Segadas-Vianna 6002 (Z); A. Silveira 337 [Herb. Marie-Victorin 12423] (N-photo,

Z--photo); L. B. Smith 6848 (W--2120217, Z). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B).

LEIOTHRIX CURVIFOLIA (Bong.) Ruhl.

Synonymy: Eriocaulon curvifolium Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 627. 1831. Eriocaulon calocephalum Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 628. 1831. Paepalanthus ? curvifolius (Bong.) Kunth, Enum. Pl. 3: 522 & 624. 1841. Paepalanthus curvifolius Kunth apud Körn. in Mart., Fl. Bras. 3 (1): 426, 427, & 507. 1863. Paepalanthus curvifolius var. α Körn. in Mart., Fl. Bras. 3 (1): 427. 1863. Dupatya curvifolia (Bong.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Dupatya curvifolia Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix curvifolia Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908. Paepalanthus calocephalus Körn. ex Moldenke, Résumé Suppl. 1: 20, in syn. 1959. Paepalanthus curvifolium Kunth ex Moldenke, Résumé Suppl. 1: 20, in syn. 1959. Eriocaulon calocephalon Bong. ex Moldenke, Résumé Suppl. 17: 9, in syn. 1968. Eriocaulon ocreatus Mart., in herb.

Bibliography: Bong., Ess. Monog. Erioc. 27 & 28. 1831; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 627 & 628 (1831) and 3 (2): 553, pl. 24. 1835; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 522, 574, 575, 612, 613, & 624. 1841; D. Dietr., Syn. Pl. 5: 261 & 267. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 279 & 333. 1855; Körn. in Mart., Fl. Bras. 3 (1): 426, 427, & 507. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 877 & 878 (1893) and 2: 401. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 233--234, 285, & 288. 1903; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 483. 1906; Prain, Ind. Kew. Suppl. 3: 101. 1908; Beauverd, Bull. Herb. Boiss., sér. 2, 8: 298. 1908; Alv. Silv., Fl. Mont. 1: 284 & 398. 1928; Stapf, Ind. Lond. 3: 90. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145 & 483. 1941; Moldenke, Known Geogr. Distrib. Erioc. 8, 33, 36, 43, 47, 50, & 52. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 877 & 878 (1946) and 2: 401. 1946; Moldenke, Alph. List Cit. 1: 412. 1946; Moldenke, Phytologia 2: 492 & 495. 1948; Moldenke, Alph. List Cit. 3: 710, 731, 855, & 935 (1949) and 4: 1297. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Phytologia 3: 497. 1951; Mendes Magalhães, Anais V Reun. Anual Soc. Bot. Bras. 234, 266--267, & 276--277. 1956; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145 & 483. 1959; Moldenke, Résumé 91, 286, 287, 324, & 484. 1959; Moldenke, Résumé Suppl. 1: 20. 1959; Renné, Levant. Herb. Inst. Agron. 69. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 877 & 878 (1960) and 2: 401. 1960; Moldenke, Résumé Suppl. 17: 9. 1968; Moldenke, Phytologia 17: 495 (1968) and 18: 366. 1969.

Illustrations: Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér.

6, 3 (2): pl. 24. 1835.

The type of this species was collected by Ludwig Riedel "In arenosis et glareosis Meia da Serra da Lapa", Minas Gerais, Brazil, and is deposited in the Leningrad herbarium. The type of Eriocaulon calocephalum was also collected by Riedel "In pratis humidis Serra da Lapa" — the L. Riedel 5, 1031, and s.n., cited below, very probably are part of this latter collection. Bongard is said to have illustrated E. calocephalum on "t. 47" of his 1831 work, but, according to Kunth (1841), this illustration was never actually published. It does not accompany the reprint of the work in the New York Botanical Garden library; possibly the original may be deposited in the Leningrad library or herbarium.

Because of the difficulty of finding copies of the original works in most libraries, it is probably worth repeating the original diagnoses here as taken from the 1831 reprint: "Eriocaulon curvifolium — acaule: foliis dense confertis linearibus mucronulatis curvatis longe-pilosis; pedunculis fasciculatis pubescentibus; vaginis brevibus pilosis. Tab. XXIV. Habitat in arenosis et glareosis Meia da Serra da Lapa. Floret Januario. Obs. Distinguitur a praecedente, cui affine: statura altiore (E. mucronatum est plantula bipollicaris); foliis pilosioribus, pedunculis longioribus, capitulisque majoribus". "Eriocaulon calocephalum — acaule: foliis caespitosis rigidis elongatis pilosiusculis; vaginis pilosis bifidis. Tab. XLVII. Habitat in pratis humidis Serra da Lapa. Floret Novembri."

Eriocaulon ocreatum appears to be based on P. Clausen 169 from Minas Gerais, deposited in the herbarium of the Jardin Botanique de l'Etat at Brussels.

Collectors have found L. curvifolia, in its typical form, in flower in January, from June to September, and in November. Irwin and his associates found it growing in sand-filled crevices of steep rocky slopes, at 1370 meters altitude, and describe it as "cespitose". Silveira (1928) avers that it is closely related to L. barreirensis Alv. Silv. Ruhland (1903) cites for it, in its typical form, P. Clausen 169, Glaziou 20005, Martius 893, L. Riedel 1031, and Schwacke 8491, 8497, & 14549, all from Minas Gerais, Brazil. The Martius 893 collection, however, seems to be a mixture with L. curvifolia var. lamuginosa (Bong.) Ruhl., while L. Riedel 1031 in the Utrecht herbarium seems to be Eriocaulon palustre Salzm.; L. Riedel 1038 is obviously a mixture with var. lamuginosa and with Eriocaulon crassiscapum Bong.; P. Clausen 203 is a mixture with L. curvifolia var. glabrescens Ruhl. and Syngonanthus nitens (Bong.) Ruhl.; and Martius s.n. [Serra de Itambé] is L. curvifolia var. plantago (Mart.) Ruhl. Silveira (1928) cites A. Silveira 211, collected at Serra do Itacolomi de Ouro Preto, Minas Gerais, in 1896.

The Damazio s.n. [Herb. Rio Jan. 63779], distributed as L. curvifolia, actually is L. curvifolia var. setacea Ruhl., while Mello

Barreto 2559 [Herb. Jard. Bot. Belo Horiz. 5926] is L. curvifolia var. microphylla Alv. Silv. and Herb. Marie-Victorin 12426 is var. plantago (Mart.) Ruhl. F. C. Hoehne 5068, annotated by Herzog as "Leiothrix spec. curvifoliae (Bong.) affinis anne var. nov. fimbriata?", is actually Syngonanthus caespitosus (Wikstr.) Ruhl.

Material of typical L. curvifolia has been misidentified and distributed in herbaria under the names L. curvifolia var. lanuginosa (Bong.) Ruhl. and Eriocaulon filiformis Bong.

Additional citations: BRAZIL: Minas Gerais: P. Clausen 4 (Br), 169 (Br, N—photo, Z—photo), 203, in part (Br), 204 (Br, N—photo, Z—photo); Irwin, Santos, Souza, & Fonseca 22230 (Rf); Martius 893, in part (B, Br, N), s.n. (Mu—51); L. Riedel 5 (N—photo, Z—photo), 1031, in part (B, Mu—162, S), 1038, in part (M, Ut—336), s.n. [Derra da Lapa] (Br); Sampaio 6707 (S).

MOUNTED ILLUSTRATIONS: drawings & notes by Körnicker (N); Mart., Fl. Bras. 16, no. 158 (B).

LEIOTHRIX CURVIFOLIA var. GLABRESCENS Ruhl.

Synonymy: Paepalanthus curvifolius var. ♂ Körn. in Mart., Fl. Bras. 3 (1): 427. 1863.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 427. 1863; Ruhl. in Engl., Pflanzenreich 14 (4-30): 233 & 288. 1903; Beauverd, Bull. Herb. Boiss., sér. 2, 8: 298—299. 1908; Moldenke, Known Geogr. Distrib. Erioc. 8, 43, & 47. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78 & 207. 1949; Moldenke, Résumé 91, 324, & 484. 1959.

The type of this variety was collected by Peter Clausen (no. 9) in Minas Gerais, Brazil, and is deposited in the herbarium of the Botanisches Museum at Berlin. Ruhland (1903) describes the taxon as follows: "Differt a forma typica foliis subcaespitosis, primum pilis brevibus densiuscule puberulis, cito calvis", and cites from Minas Gerais P. Clausen 9, Schwacke 12051, and A. Silveira 1508. Material has been misidentified and distributed in herbaria under the name Eriocaulon curvifolium Bong. P. Clausen 203 appears to be a mixture with typical L. curvifolia (Bong.) Ruhl. and Syngonanthus nitens (Bong.) Ruhl.

Citations: BRAZIL: Minas Gerais: Black & Magalhães 51-11919 (Be—69743); P. Clausen 9 (B—type, Z—isotype), 203, in part (P), s.n. (Br, N); Mello Barreto 2556 [Herb. Jard. Bot. Belo Horiz. 4796] (N); Mendes Magalhães 1385 [Herb. Jard. Bot. Belo Horiz. 40086] (N).

LEIOTHRIX CURVIFOLIA var. LANUGINOSA (Bong.) Ruhl.

Synonymy: Eriocaulon lanuginosum Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 627. 1831. Paepalanthus lanuginosus (Bong.) Körn. in Mart., Fl. Bras. 3 (1): 428. 1863. Paepalanthus lanuginosus Körn. in Mart., Fl. Bras. 3 (1): 507 & 508. 1863.

Dupatya lanuginosa (Bong.) Kuntze, Rev. Gen. Pl. 2: 745. 1891.
Dupatya lanuginosa Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix lanuginosa Bong. ex Alv. Silv., Fl. Mont. 1: 399. 1928. Leiothrix lanuginosa Ruhl. ex Moldenke, Known Geogr. Distrib. Erioc. 43, in syn. 1946. Paepalanthus lanuginosa Körn. ex Moldenke, Phytologia 3: 497, in syn. 1951. Eriocaulon lanigerum Bong., in herb. [not E. lanigerum H. Lecomte, 1908].

Bibliography: Bong., Ess. Monog. Erioc. 27. 1831; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 627 (1831) and 2: 236—237, pl. 19, fig. 1—4. 1832; Bong., Ess. Monog. Erioc. 73—74. 1832; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 574 & 613. 1841; D. Dietr., Syn. Pl. 5: 267. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 279 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 428, 507, & 508. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 878 (1893) and 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4—30): 234, 286, & 288. 1903; Alv. Silv., Fl. Mont. 1: 399. 1928; Stapf, Ind. Lond. 3: 90. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Erioc. 8, 36, 43, & 50. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 878 (1946) and 2: 402. 1946; Moldenke, Alph. List Cit. 1: 412. 1946; Moldenke, Phytologia 2: 495. 1948; Moldenke, Alph. List Cit. 3: 855 & 935. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 497. 1951; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 91, 289, 309, 326, & 484. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 878 (1960) and 2: 402. 1960; Moldenke, Phytologia 17: 495. 1968.

Illustrations: Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 2: pl. 19. 1832.

The type of this variety appears to be L. Riedel 1038, which was collected "in pratis humidis paludibusque Serra da Lapa", Minas Gerais, Brazil, and is deposited in the Leningrad herbarium. Ruhland (1903) says of the variety "Differt a forma typica foliis dense rosulatis, medio lana densissima, albida villosa-velatis; pedunculis hirsutis" and cites Glaziou 20006, 20007, & 20008, L. Riedel 1038, and Schwacke 8482, 8487, & 8497a, all from Minas Gerais. Silveira (1928) cites A. Silveira 338 from Serra do Cipó, Minas Gerais, collected in 1905. Martius 893 appears to be a mixture with typical L. curvifolia (Bong.) Ruhl. Variety lanuginosa has been collected in flower and fruit in June.

Additional & emended citations: BRAZIL: Minas Gerais: Brade 13602 [Herb. Jard. Rio Jan. 25385] (B); Glaziou 20009, in part (Br); Martius 893, in part (Mu—161, T); Mello Barreto 2527 [Herb. Jard. Bot. Rio Jan. 10678] (N), 9536 [Herb. Jard. Bot. Rio Jan. 24425] (N); L. Riedel 1038, in part (B—istype, Br—istype, N—photo of isotype, S—istype, Z—photo of isotype); A. Silveira

338 (N--photo).

LEIOTHRIX CURVIFOLIA var. MICROPHYLLA Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 296 & 398. 1928; Moldenke, Phytologia 2: 492 & 495. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 91 & 484. 1959.

Silveira (1928) describes this variety as "A forma typica foliis rosulatis angustis glabris, 6--10 mm longis 1/3 -- 1/2 mm latis et pedunculis patentibus vel retrorso-pilosis differt". The type of the variety is A. Silveira 525, collected "In campis prope Itacambira", Minas Gerais, Brazil, in 1906, deposited in the Silveira Herbarium. It is the only collection cited by him.

Recent collectors describe the plant as a tufted herb, the inflorescence to 5 cm. tall, the heads gray, growing in sandy soil, on wet sandy slopes, and on sandy campos with outcrops, at altitudes of 1200 to 1295 meters, flowering and fruiting in January, February, and November. Material has been misidentified and distributed in herbaria as typical L. curvifolia (Bong.) Ruhl. and under the name Paepalanthus barbigerus Alv. Silv.

Citations: BRAZIL: Minas Gerais: Eainio s.n. [IV.1885] (S); Heringer & Castellanos 6098 (B); Irwin, Maxwell, & Wasshausen 2007h (N, Rf); Macedo 2933 (N), 2953 (S), 2977 (N, S); Mello Barreto 2559 [Herb. Jard. Bot. Belo Horiz. 5925] (N); Mendes Magalhães 189h2 (N); Murça Pires & Black 2827 (N, Z), 2970 (N); Segadas-Vianna 600h (Z); L. B. Smith 6832 (W--2120207); Tryon & Tryon 6777 (Ac).

LEIOTHRIX CURVIFOLIA var. PLANTAGO (Mart.) Ruhl.

Synonymy: Paepalanthus plantago Mart. ex Körn. in Mart., Fl. Bras. 3 (1): 426. 1863. Dupatya plantago (Mart.) Kuntze, Rev. Gen. Pl. 2: 746. 1891. Dupatya plantago Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1904.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 426. 1863; Kuntze, Rev. Gen. Pl. 2: 746. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 234 & 288. 1903; Alv. Silv., Fl. Mont. 1: 398. 1928; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Erioc. 8, 43, & 52. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 2: 402. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Alph. List Cit. 4: 1297. 1949; Moldenke, Phytologia 3: 497. 1951; Mendes Magalhães, Anais V Reun. Anual Soc. Bot. Bras. 234. 1956; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 91, 327, & 484. 1959; Rennó, Levant. Herb. Inst. Agron. 69. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 2: 402. 1960.

The type of this variety was collected by Carl Friedrich Philipp von Martius at Serro Frio, Minas Gerais, Brazil, in May,

1818, and is deposited in the herbarium of the Botanische Staatssammlung at Munich. Ruhland (1903) describes the variety as follows: "Differt a forma typica foliis angustissimè linearibus, apice recurvatis, utrinque longe pilosis; pedunculis longe albobillosis; vaginis cito calvescentibus" and cites only the type collection. Silveira (1928) cites only A. Silveira 733, collected in the Serra do Cipó, Minas Gerais, in 1905.

Recent collectors describe the plant as having inflorescences to 15 cm. tall, the heads white, growing on wet campo slopes, at altitudes of 1400--1800 meters, flowering and fruiting in February, from June to August, in October, and in December. Mrs. Chase found it "in wettish sand by [a] tiny streamlet near open summit of serra".

Material has been misidentified and distributed in herbaria as Syngonanthus arenarius (Gardn.) Ruhl. Ruhland annotated the Martius s.n. [Serra de Itambé] collection, cited below, in the Munich herbarium as typical L. curvifolia (Bong.) Ruhl., but does not cite it as that in his monograph (1903). The Segadas-Vianna & Lorêdo 1065, distributed as var. plantago, is actually L. curvifolia var. setacea Ruhl.

Additional citations: BRAZIL: Minas Gerais: Archer 3678 (W--1705664); M. A. Chase 10357 (W--1495689); Duarte & Barroso 7877 (Bd--27775), s.n. [A. P. Duarte 7942] (Bd--27767); G. Gardner 5277 (V--270466); Herb. Marie-Victorin 12426 (N--photo, Z--photo); Irwin, Maxwell, & Wasshausen 20311 (N, Z); Martius s.n. [Serra Frio, Maio 1818; Macbride photos 18734] (Mu--171--type, N--photo of type, W--photo of type), s.n. [Serra de Itambé] (Mu--160); Mello Barreto 2562 [Herb. Jard. Bot. Belo Horiz. 7863] (N), 2570 [U. S. Nat. Arb. 236390] (W--2109994); Mendes Magalhães 2366 [Herb. Jard. Bot. Belo Horiz. 43437] (N); L. B. Smith 6840 (N, Z).

LEIOTHRIX CURVIFOLIA var. PROLIFICA Ruhl.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 234 & 288. 1903; Moldenke, Known Geogr. Distrib. Erioc. 8 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 91 & 484. 1959.

Ruhland (1903) says of this variety "Differt a forma typica capitulis saepius folia parva, dense villosa proliferentibus, globosis, duris; foliis cito glabris" and cites only the type collection, Sena s.n., from Minas Gerais, deposited in the herbarium of the Botanisches Museum at Berlin.

Citations: BRAZIL: Minas Gerais: Sena s.n. [Herb. Schwacke 14548] (B--type, Z--isotype).

LEIOTHRIX CURVIFOLIA var. SETACEA Ruhl.

Synonymy: Leiothrix curvifolia var. setacea (Bong.) Ruhl. apud Mendes Magalhães, Anais V Reun. Anual Soc. Bot. Bras. 234, sphalm. 1956.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 234 & 288. 1903; Alv. Silv., Fl. Mont. 1: 398. 1928; Moldenke, Known Geogr. Distrib. Erioc. 8 & 43. 1946; Moldenke, Alph. List Cit. 3: 731. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 497. 1951; Mendes Magalhães, Anais V Reun. Anual Soc. Bot. Bras. 234. 1956; Moldenke, Résumé 91 & 484. 1959; Rennó, Levant. Herb. Inst. Agron. 69. 1960.

Ruhland (1903) distinguishes this variety as "Differt a forma typica foliis angustissime setaceis, persistenter mucronatis, pili longiusculis sparse pilosulis; vaginis cito glabrescentibus, folia paullo superantibus, plus minus rufo-fuscis.....Foliorum longitudo valde variabilis, pili eorum vix dimidium illorum formae typicae attingunt et multo sparsius quam in illa distant. Fortasse Eriocaulon curvifolium Bong. illius synonymon est." He cites as cotypes Glaziou 15542 & 15543 and Magalhães Gomes 3886 from Minas Gerais. Silveira (1928) cites only A. Silveira 524 from Ouro Preto, also in Minas Gerais.

Recent collectors describe the plant as caespitose, the inflorescence 8--15 cm. tall, and the flower-heads cream-color or light-gray, growing in campos or wet campos, at altitudes of 1200 to 1245 meters, flowering and fruiting in February, May, and October. Mrs. Mexia describes it as a perennial herb "growing in small clumps, common, near stream; flowers white".

Material has been misidentified and distributed in herbaria as typical L. curvifolia (Bong.) Ruhl. and as L. curvifolia var. plantago (Mart.) Ruhl.

Additional citations: BRAZIL: Minas Gerais: Archer & Mello Barreto 4945 [U. S. Nat. Arb. 177442] (W--2121755); P. Clausen 271 (S); Damazio s.n. [Herb. Rio Jan. 63779] (N); Glaziou 15542 (Br--cotype, N--cotype, N--photo of cotype, Z--photo of cotype), 15543 (N--cotype); Heringer & Castellanos 6105 (Rf); Irwin, Maxwell, & Wasshausen 20798 (Ac, N), 21002 (N, Rf); Magalhães Gomes 944 [Herb. Jard. Bot. Belo Horiz. 26616] (N), 2720 [Herb. Jard. Bot. Belo Horiz. 26616] (N); Mello Barreto 10124 [Herb. Jard. Bot. Belo Horiz. 24164] (N); Mendes Magalhães 1385 (Be--14260), 2543 [Herb. Jard. Bot. Belo Horiz. 43825] (N), 3886 [Herb. Jard. Bot. Belo Horiz. 26622] (N); Mexia 5799 (Go, Mi, N, S, Ut--50250a, W--1571907); Sagadas-Vianna & Lorêdo 1065 (N, Z); Schwacke 8491 [Herb. Magalhães Gomes 2981; Herb. Jard. Bot. Belo Horiz. 26621] (N).

LEIOTHRIX CURVIFOLIA var. SUBGLAUDESCENS Ruhl.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 233--234 & 288. 1903; Alv. Silv., Fl. Mont. 1: 398. 1928; Moldenke, Known Geogr. Distrib. Erioc. 8 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 91 & 484. 1959.

Ruhland (1903) says of this variety "Differt a forma typica foliis longis, dense caespitoso-rosulatis, glaucescentibus, juven-

tute pilis brevibus dense pubescentibus, persistentibus vel demum subdeciduis; pedunculis persistenter arrecto-puberulis; vaginis quam folia saepe dimidio brevioribus, hirsuto-puberulis...Vaginis brevibus L. gramineae similis. Specimina Schwackeana medio rosulae sublamuginosa sunt et transitum ad varietatem lanuginosam faciunt". He cites Glaziou 19983 & 20002, Magalhães Gomes 2721, Schwacke 8490, and Sena s.n. [Herb. Schwacke 12828a], all from Minas Gerais, Brazil. From his comments it would appear, however, that only the Glaziou and Magalhães Gomes collections are to be regarded as cotypes of the variety. Silveira (1928) cites A. Silveira 339 from the Serra do Cipó, Minas Gerais, collected in 1905.

Citations: BRAZIL: Minas Gerais: Glaziou 20002 (Br--cotype, N--cotype, N--photo of cotype, Z--photo of cotype); Schwacke 8490 [Herb. Magalhães 3928; Herb. Jard. Bot. Belo Horiz. 26623] (N).

LEIOTHRIX CUSCUTOIDES Alv. Silv.

Bibliography: Alv. Silv., Fl. Serr. Min. 71, pl. 27. 1908; Alv. Silv., Fl. Mont. 1: 399, pl. 188. 1928; Stapf, Ind. Lond. 4: 67. 1930; A. W. Hill, Ind. Kew. Suppl. 8: 133. 1933; Worsdell, Ind. Lond. Suppl. 2: 38. 1941; Moldenke, Phytologia 2: 374 & 379. 1947; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 91 & 484. 1959.

Illustrations: Alv. Silv., Fl. Serr. Min. pl. 27. 1908; Alv. Silv., Fl. Mont. 1: pl. 188. 1928.

Recent collectors describe the inflorescence of this plant as growing to 30 cm. tall, grayish in color, and found the plant growing on wet slopes and on high campo slopes with outcrops and at creek margins, at an altitude of 1400 meters, flowering and fruiting in February. Silveira (1928), author of the name for this taxon, cites only the type, A. Silveira 375, from the Serra do Cipó, Minas Gerais, Brazil, collected in 1905 and deposited in his personal herbarium.

Citations: BRAZIL: Minas Gerais: Irwin, Maxwell, & Wasshausen 20314 (N, Z); A. Silveira 375 (B--isotype, Z--isotype).

LEIOTHRIX DIELSII Ruhl.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 231--232, & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv., Fl. Mont. 1: 399. 1928; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Phytologia 2: 492. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 91 & 484. 1959; Moldenke, Résumé Suppl. 12: 4. 1965.

Collectors have found this plant growing in sandy soil, in restinga, turf, and sphagnum, at lakesides, and on beaches, flowering and fruiting from April to July. Ruhland (1903) cites for it Glaziou 13498 and Schwacke 3087 from Rio de Janeiro as cotypes. The Glaziou 3087 [could this perhaps be the "Schwacke" 3087 which he cites?] in the Paris herbarium bears striking superficial resemblance to L. rufula (A. St. Hil.) Ruhl. Silveira (1928) cites

A. Silveira 624, collected as S. Anna, São Paulo, in 1912.

Material of L. dielsii has been misidentified and distributed in herbaria as Syngonanthus gracilis (Körn.) Ruhl.

Citations: BRAZIL: Guanabara: B. Lutz 668 (Ac, Ja--28893, Ja). Rio de Janeiro: Alston & Lutz 33 (Ja--113695, Ja); Duarte & Pereira s.n. [A. P. Duarte 5802; Herb. Brad. 15382] (Lw); Glaziou 3087 (P), 13498 [Macbride photos 10668] (B--cotype, Br--cotype, N--cotype, N--photo of cotype, W--photo of cotype); Mello Mattos s.n. [Agosto de 1897] (Ja--4834, Ja, Ja); Netto, Glaziou, & Schwacke s.n. [Cabo Frio] (Ja--4835); Segadas-Vianna 4012 (Sm), 4283 (Sm); Segadas-Vianna, Dau, Ormond, Machline, & Lorêdo 136 (Sm), 137 (Sm), 138 (Sm), 140 (Ja), 150 (Sm), 152 (Sm), 154 (Sm), 155 (Sm), 156 (Z), 157 (Sm), 158 (Sm), 159 (Sm), 162 (Sm), 163 (Sm), 164 (Sm), 442 (Sm); Saldanha 5951 (Ja--47867); Ule s.n. [24 Sept. 1895] (Ja--74).

LEIOTHRIX DISTICHOCLADA Herzog

Bibliography: Lützelburg, Estud. Bot. Nordeste 3: 147 & 150. 1923; Herzog in Fedde, Repert. Sp. Nov. 20: 88. 1924; A. W. Hill, Ind. Kew. Suppl. 7: 135. 1929; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 497--498. 1951; Moldenke, Résumé 91 & 434. 1959; Moldenke, Résumé Suppl. 17: 3 & 11. 1968.

Although the original description of this species (1924) cites both Lützelburg 85 and 277, it appears that only the former is intended to represent the typical form of the species and alone should be regarded as its type. The latter collection, no. 277, is labeled "f. bracteosa Herzog" in Herzog's own handwriting and must be regarded as the type of that subspecific taxon.

In a letter received by me in September, 1968, the librarian of the Gray Herbarium of Harvard University at Cambridge, Massachusetts, states of Lützelburg's work: "vol. 3 was published in late 1923 (introduction is dated December 1923). On p. 147 an unknown person has written in the date 1924 after both names [L. distichoclada and its f. bracteosa]" -- I assume, however, that this is not taken to indicate that Lützelburg's work, nor even merely that part of it, did not appear in print until 1924, but rather is taken to indicate that the names were not formally published by Herzog until 1924 in Fedde's Repertorium, volume 20. The Gray Herbarium's Card Index says "Leiothrix distichoclada Herzog, Fedde, Rep. Spec. Nov. 20: 88. 1924 -- Brazil", ignoring the earlier publication, albeit without formal description, by Lützelburg.

Citations: BRAZIL: Bahia: Lützelburg 85 [Macbride photos 18735] (Mu--type, N--photo of type, N--photo of type, W--photo of type, Z--isotype).

LEIOTHRIX DISTICHOCLADA f. BRACTEOSA Herzog

Synonymy: Leiothrix distichoclada f. bracteata Herzog ex Lützelburg, *Estud. Bot. Nordéste* 3: 147 & 150. 1923.

Bibliography: Lützelburg, *Estud. Bot. Nordéste* 3: 147 & 150. 1923; Herzog in Fedde, *Repert. Sp. Nov.* 20: 88. 1924; Moldenke, *Phytologia* 3: 498. 1951; Moldenke, *Résumé* 91 & 484. 1959; Moldenke, *Résumé Suppl.* 17: 3 & 11. 1968.

The type of this form is obviously Lützelburg 277 from wet carasco at Bom Jesus, altitude 1000 meters, Bahia, Brazil, collected in July, 1914, and deposited in the herbarium of the Botanische Staatssammlung at Munich, even though this collection number is cited in the original publication under typical L. distichoclada. In the Munich herbarium some unknown hand has added the letters "a" and "b" after the numbers on the two specimens deposited there, but this addition was very obviously made at a later date and the two specimens are very certainly from the same locality and collection. Herzog describes the form as "pedunculis flexuosis longioribus magis tortis". The trinomial is for some reason not accounted for in the Gray Herbarium's Card Index as of this writing.

Even though the original spelling of the form name of this taxon by Lützelburg was "bracteata" and was thus accredited to Herzog by him, the first valid publication under the present edition of the International Rules of Botanical Nomenclature (by Herzog himself the following year) was "bracteosa" and so the latter spelling is the one that must be adopted.

Citations: BRAZIL: Bahia: Lützelburg 277 (N--isotype), 277a (Mu--type), 277b (Mu--isotype, Z--isotype).

LEIOTHRIX DISTICHOCLADA var. GLANDULOSA Herzog

Synonymy: Leiothrix distichoclada f. glandulosa Herzog ex Moldenke, *Résumé* 309, in syn. 1959.

Bibliography: Herzog in Fedde, *Repert. Sp. Nov.* 20: 88. 1924; Moldenke, *Known Geogr. Distrib. Erioc.* 9 & 43. 1946; Moldenke, *Known Geogr. Distrib. Verbenac.*, [ed. 2], 79 & 207. 1949; Moldenke, *Résumé* 91, 309, & 484. 1959.

The original description (1924) of this variety is "Habitu similis, minus compressa, flavescens nec olivaceo-nigricans, foliis, pedunculis vaginisque dense glanduligeris, bracteis stipantibus angustioribus differt. An species propria?" The final phrase would probably lead some experts on nomenclature to claim that the name was not validly published. It is based on Lützelburg 310 from Bom Jesus, Bahia, Brazil.

Citations: BRAZIL: Bahia: Lützelburg 310 (Mu--type, Mu--isotype, Z--isotype).

LEIOTHRIX DISTICOPHYLLA Alv. Silv.

Bibliography: *Alv. Silv.*, *Fl. Mont.* 1: 287--288 & 399. 1928; A. W. Hill, *Ind. Kew. Suppl.* 9: 156. 1938; Moldenke, *Known Geogr. Distrib. Erioc.* 9 & 43. 1946; Moldenke, *Known Geogr. Distrib. Verben-*

ac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 91 & 484. 1959.

The type of this species was collected by Álvaro Adolpho da Silveira (no. 412) "in campis humidis, locis nigro-argillosis, prope Quartel, in via ad Diamantina, Minas Geraes", Brazil, in April, 1908, and is deposited in the Silveira herbarium. Silveira comments (1928) "Species propter folia disticha ab affinibus valde distincta". On page 399 of his above-mentioned work he gives "1905" as the date of collection of the type.

LEIOTHRIX DUBIA Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 306 & 399, pl. 193. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Worsdell, Ind. Lond. Suppl. 2: 38. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 91 & 484. 1959.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 193. 1928.

Recent collectors describe this plant as a caespitose herb, the inflorescences to 15 cm. tall but bending over and the outermost ones touching the ground, the inner ones shorter, growing in sandy campos at the base of a ridge of sandstone, at 1200 meters altitude, flowering and fruiting in February.

The type of the species is A. Silveira 529 from "In campis prope Diamantina, Minas Gerais, Brazil, collected in April, 1908, and deposited in the Silveira herbarium. Silveira notes (1928) "Ab affine L. arrecta Ruhl. praecipue indumento pedunculorum difert" and on page 399 of the same work gives "1905" as the date of collection of the type.

Citations: BRAZIL: Minas Gerais: Irwin, Maxwell, & Wasshausen 20979 (N, Rf); E. Pereira 2830 [Pabst 3466 & 3666; Herb. Brade 3845] (Lw, Z).

LEIOTHRIX ECHINOCEPHALA Ruhl.

Synonymy: Paepalanthus echinocephalus Ruhl. ex Moldenke, Résumé Suppl. 1: 20, in syn. 1959.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 232, & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv., Fl. Mont. 1: 399. 1928; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Alph. List Cit. 1: 412 (1946) and 3: 935. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 498. 1951; Moldenke, Résumé 91 & 484. 1959; Moldenke, Résumé Suppl. 1: 20. 1959; Rennó, Levant. Herb. Inst. Agron. 69. 1960.

Ruhland (1903) cites only Glaziou 20001 and Schwacke 8489 as cotypes of this species from Minas Gerais, Brazil. Silveira (1928) cites A. Silveira 209, collected at Diamantina, also in Minas Gerais, in 1908. The M. A. Chase 9714, distributed as L. echinocephala, is actually Paepalanthus sphaerocephalus Ruhl.

Additional citations: BRAZIL: Minas Gerais: Glaziou 20001 (B-cotype); Schwacke 8489 [Herb. Jard. Bot. Belo Horiz. 26662; Macbride photos 10669] (B-cotype, N-cotype, N-photo of cotype, W-

photo of cotype); A. Silveira 209 (N—photo, Z—photo).

LEIOTHRIX EDWALLII Alv. Silv.

Synonymy: Paepalanthus edwallii Alv. Silv., Fl. Mont. 1: 282. 1928.

Bibliography: Alv. Silv., Fl. Serr. Min. 70. 1908; Alv. Silv., Fl. Mont. 1: 282 & 399. 1928; A. W. Hill, Ind. Kew. Suppl. 8: 133. 1933; Moldenke, Phytologia 2: 374 & 379 (1947) and 2: 496. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 498. 1951; Moldenke, Résumé 91, 324, & 484. 1959.

Silveira (1928) cites only the type collection of this species, A. Silveira 420, collected at Campo Grande, São Paulo, Brazil, in 1892.

LEIOTHRIX FLAGELLARIS (Guill.) Ruhl.

Synonymy: Eriocaulon flagellare Guill. in Deless., Icon. Sel. 3: 60—61, pl. 98. 1837. Paepalanthus flagellaris (Guill.) Kunth, Enum. Pl. 3: 526. 1841. Paepalanthus flagellaris Kunth apud Körn. in Mart., Fl. Bras. 3 (1): 282, 417, & 507. 1863. Dupatyia flagellaris (Guill.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Stephanophyllum flagellaris Guill. apud Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 992. 1895. Dupatyia flagellaris Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix flagellaris Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908.

Bibliography: Guill. in Deless., Icon. Sel. 3: 60—61 & 67, pl. 98. 1837; Kunth, Enum. Pl. 3: 526, 613, & 625. 1841; D. Dietr., Syn. Pl. 5: 262. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 280 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 282, 417, & 507. 1863; Hieron. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 2 (4): 22. 1888; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 878 (1893), 2: 402 (1894), and 2: 992. 1895; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 225, 237, 285, & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv., Fl. Mont. 1: 399. 1928; Stapf, Ind. Lond. 3: 90. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9, 29, 34, 43, & 48. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 878 (1946) and 2: 402 & 992. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92, 280, 288, 325, & 484. 1959; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé Suppl. 1: 23. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 878 (1960) and 2: 402 & 992. 1960; Moldenke, Phytologia 17: 495. 1968; Moldenke, Résumé Suppl. 18: 13. 1969.

Illustrations: Guill. in Deless., Icon. Sel. 3: pl. 98. 1837.

The type of this species is Vauthier 65, deposited in the herbarium of the Muséum National d'Histoire Naturelle at Paris. Kunth (1841) quotes Guillemin "Eriocaulo viviparo et prolifero

Bong. valde affinis, nonnisi glabritie et vaginarum brevitate ab iis differre videtur. In stirpibus peculiaris, characteres afferunt satis distinctos, ut inde genus novum (Stephanophyllum) inter Eriocaulon et Toninam collocandum constituatur". Guillemin (1837) does not actually make the combination accredited to him by Jackson (1895), merely suggesting it [cfr. under the genus Leiothrix in general in this series of notes].

Ruhland (1903) cites Martius s.n., Sena s.n. [Herb. Schwacke 9357 & 14554], Vauthier s.n., and Wied-Neuwied s.n., all from Minas Gerais, Brazil. Silveira (1928) cites A. Silveira 530, collected at Serra da Raiz, near Diamantina, Minas Gerais, in 1908. Most recent collectors have found the plant growing on campos, flowering and fruiting in May and August. Material has been misidentified and distributed in herbaria under the names L. vivipara (Bong.) Ruhl. and Lagenocarpus brevifolius (Boeckl.) H. Pfeiff. On the other hand, the P. Clausen 8, distributed as L. flagellaris, is actually Eriocaulon crassiscapum Bong., while Williams & Assis 6910 is Leiothrix triangularis Alv. Silv.

Citations: BRAZIL: Minas Gerais: Archer 4108 (N, W--1705638); Glaziou s.n. (P); Martius s.n. [Diamantina, prope Tejuco, Maio 1808] (B, Mu--146); Mello Barreto 2513 [Herb. Jard. Bot. Belo Horiz. 8281] (N); Sena s.n. [Herb. Schwacke 9357] (B), s.n. [Herb. Schwacke 14554] (B, Z). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B).

LEIOTHRIX FLAVESCENS (Bong.) Ruhl.

Synonymy: Eriocaulon flavescens Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 628. 1831. Paepalanthus eriocephala Klotzsch in Schomb., Vers. Fauna & Fl. Brit.-Guian. 1064. 1848. Paepalanthus flavescens (Bong.) Körn. in Mart., Fl. Bras. 3 (1): 423. 1863. Eriocaulon falcatum Mart. ex Körn. in Mart., Fl. Bras. 3 (1): 423, in syn. 1863 [not E. falcatum Bong., 1831]. Dupatya flavescens (Bong.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Paepalanthus flavescens Körn. apud Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 402. 1894. Dupatya flavescens Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Paepalanthus eriocephalus Klotzsch apud Ruhl. in Engl., Pflanzenreich 13 (4-30): 290, in syn. 1903. Leiothrix flavescens Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908. Leiothrix flavescens (Körn.) Ruhl. ex Alv. Silv., Fl. Mont. 1: 399. 1928. Eriocaulon elongatum Brongn. ex Moldenke, Résumé Suppl. 1: 17, in syn. 1959 [not E. elongatum Bong., 1831]. Paepalanthus brevifolius Körn. ex Moldenke, Résumé Suppl. 1: 20, in syn. 1959. Paepalanthus elongatus Mart. ex Moldenke, Résumé Suppl. 1: 20, in syn. 1959 [not P. elongatus (Bong.) Körn., 1863, nor Körn., 1894]. Paepalanthus falcatus Mart. ex Moldenke, Résumé Suppl. 1: 20, in syn. 1959 [not P. falcatus (Bong.) Körn., 1863,

nor Körn., 1894]. Paepalanthus petrophilus Mart. ex Moldenke, Résumé Suppl. 1: 21, in syn. 1959. Paepalanthus xyrioides Mart. ex Moldenke, Résumé Suppl. 1: 22, in syn. 1959. Paepalanthus xyrioides St. Hil. ex Moldenke, Résumé Suppl. 1: 22, in syn. 1959. Paepalanthus xyrioides var. brevifolius Schreber ex Moldenke, Résumé Suppl. 1: 22, in syn. 1959. Eriocaulon elongatum St. Hil., in herb. Paepalanthus xyridioides Mart., in herb. Paepalanthus xyridioides var. brevifolius Mart., in herb.

Bibliography: Bong., Ess. Monog. Erioc. 28. 1831; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 628 (1831) and 5: 29, pl. 35. 1839; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 575 & 613. 1841; Schomb., Vers. Faun. & Fl. Brit.-Guian. 1064. 1848; Schomb., Reise Brit.-Guian. 3: 1064. 1848; D. Dietr., Syn. Pl. 5: 267. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 279 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 423, 502, 505, & 507. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 878 (1893) and 2: 401 & 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 231, 285, 288, & 290. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Lützelburg, Estud. Bot. Nordeste 3: 148. 1923; Alv. Silv., Fl. Mont. 1: 399. 1928; Ruhl. in Engl. & Prantl, Nat. Pflanzenfam., ed. 2, 15a: 54. 1930; Stapf, Ind. Lond. 3: 90. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Erioc. 6, 9, 29, 34, 43, & 48. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 878 (1946) and 2: 401 & 402. 1946; Moldenke, Alph. List Cit. 1: 105, 224, 250, & 412. 1946; Moldenke, Phytologia 2: 374 (1947) and 2: 495. 1948; Moldenke, Alph. List Cit. 3: 710, 935, & 975 (1949) and 4: 1134, 1301, & 1304. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 63, 66, 79, 97, & 207. 1949; Moldenke, Phytologia 3: 498-499. 1951; Rambo, Sellowia 6: 130. 1954; Mendes Magalhães, Anais V Reun. Anual Soc. Bot. Bras. 266-267 & 276-277. 1956; Reitz, Sellowia 7: 124. 1956; Moldenke in J. A. Steyerl., Fiediana 28: 824. 1957; Angely, Fl. Paran. 10: 14. 1957; Moldenke, Résumé 71, 75, 92, 114, 280, 288, 309, 324, 325, & 484. 1959; Reitz, Sellowia 11: 31 & 112. 1959; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé Suppl. 1: 17 & 20-22. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 878 (1960) and 2: 401 & 402. 1960; Rennó, Levant. Herb. Inst. Agron. 69. 1960; Angely, Fl. Paran. 16: 59 (1960) and 17: 24. 1961; Reitz, Sellowia 13: 52, 53, 72, & 90. 1961; Moldenke, Résumé Suppl. 7: 4 (1963) and 12: 3, 4, & 11. 1965; Angely, Fl. Anal. Paran., ed. 1, 201. 1965; J. A. Steyerl., Act. Bot. Venez. 1: 98. 1966; Moldenke, Phytologia 19: 102. 1969.

Illustrations: Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 5: pl. 35. 1839.

It should be noted here that the Eriocaulon falcatum Bong. and Paepalanthus falcatus (Bong.) Körn. and its orthographic variant, P. falcatus Körn., are all synonyms of Paepalanthus pedunculatus (Bong.) Ruhl., while Eriocaulon elongatum Bong. and Paepalanthus

elongatus Körn. are synonyms of Paepalanthus elongatus (Bong.) Körn., a valid species.

The type of Paepalanthus eriocephalus Klotzsch is probably Rich. Schomburgk 1011 from Guyana; that of Eriocaulon falcatum Mart. and Paepalanthus falcatus Mart. is Martius 882 from "in irriguis Serra da Lapa et M. Itacolumni" -- the former locality in Minas Gerais and the latter in São Paulo, Brazil; that of Paepalanthus petrophilus Mart. is Martius s.n. from Minas Novas, Minas Gerais, deposited in the Munich herbarium; that of Paepalanthus xyridioides var. brevifolius Mart. is Martius 954 from Minas Gerais, also deposited at Munich; and that of Eriocaulon elongatum St. Hil. and Paepalanthus elongatus Mart. is Houillet s.n., collected in São Paulo in 1839. The type of Leiothrix flavescens itself, is L. Riedel 1479, collected "In humidis montis Itacolumni", São Paulo. Silveira (1928) cites A. Silveira 210, collected in the Serra de Ibitipoca, Minas Gerais, in 1896.

Recent collectors describe this apparently common species as having soft, ascending, membranous, rich- or pale-green, pubescent leaves, the flower-heads chalk-white or powdery-white with grayish outer margins, and the involucre tawny-brown, growing on slopes and in marshy places, at altitudes of 1025--2400 meters, flowering and fruiting in February, April, July, September, and November, and known locally as "capim manso", "capi poatinga", "gravatá manso", and "semprevivas do campo" [this latter name is applied to many species of the family in Brazil]. Maguire & Fanshawe describe the species as "locally frequent in savannas" in Guyana, Wurdack calls it "locally abundant in seepage on rocky slopes" in Peru, and Steiermark says of it "plants solitary in small tufts in shelter at base of large rocks" in Venezuela.

Gleason, in his unpublished Flora of British Guiana, describes the species as follows: "Leaves basal, linear or narrowly lanceolate, 6--10 cm. long, 4--8 mm. wide, obtuse, thinly hirsute; peduncles 1--4, erect, 3--5 dm. high, glabrous or nearly so, twisted, their sheaths pubescent, exceeding the leaves; heads 8--10 mm. in diameter, densely woolly; bracts narrowly obovate, hirsute distally, shorter than the heads" and cites from the Roraima region of Guyana Im Thurn 60, Quelch & McConnell 9, 10, & 327, Rich. Schomburgk 1011, and G. H. H. Tate 330 & 333. Ruhland (1903) cites no specimens at all, but gives the geographic distribution of the species as from Venezuela and Guyana to the states of Goiás, Minas Gerais, Rio de Janeiro, and São Paulo, Brazil. According to Kunth (1841) the plate 35 of Bongard was never published, but it actually WAS published in 1839. This leads one to question Kunth's other statements about Bongard plates not ever having been published.

The Guillemin 521, cited below, was erroneously cited by me previously as Paepalanthus elongatus var. pubescens Alv. Silv.; Brade 5528 is a mixture with Syngonanthus caulescens (Poir.) Ruhl., and Dusén 7212 is a mixture with Eriocaulon sellowianum Kunth.

Material of Leiostrix flavescens has been misidentified and distributed in herbaria under the names Eriocaulon elongatum Bong., E. falcatum Bong., Paepalanthus centauroides Körn., P. elongatus var. pubescens Alv. Silv., Syngonanthus caulescens (Poir.) Ruhl., and S. centauroides (Bong.) Ruhl. On the other hand, the J. A. Steyermark 58849 and G. H. H. Tate 1109, distributed as typical Leiostrix flavescens, are actually its var. alpina Moldenke, Blanchet 2598 and Schüch s.n. [Sebastianopoli 1844] are L. hirsuta var. blanchetiana (Körn.) Ruhl., Williams & Assis 6925 is L. nubigena (Kunth) Ruhl., M. A. Chase 8009 is Paepalanthus albo-ciliatus Alv. Silv., and Sehnen 3005 is Syngonanthus chrysanthus (Bong.) Ruhl.

Additional & emended citations: VENEZUELA: Bolívar: Pannier & Schwabe s.n. [Auyantepui] (Ve); Phelps 380 (Ve); J. A. Steyermark 93201 (Lw, N), 93503 (Lw, N); Steyermark & Wurdack 400 (N). Trujillo: Funck & Schlim 810 (B, Br); Linden 810 (Br). GUYANA: Jenman 60 (W--303501); Maguire & Fanshawe 32537 (N); Rich. Schomburgk 1011 (B); G. H. H. Tate 330 (N), 333 (N). PERU: Amazonas: Wurdack 583 (W--2403671). Pasco: Vera 1567 (W--2413442). BRAZIL: Bahia: Lützelburg 276 (Mu, N). Guanabara: B. Lutz 667 (Ja--28892). Minas Gerais: A. Castellanos 24182 [Herb. Cent. Pesq. Florest. 2952] (Ac); P. Clausen 1 (N), 8 (P), 14 (Br), 49 [Martius 882] (B, Br, Br, Br, M, Mu--167, Mu--168, Mu--332, N--photo, S, Z--photo), 65 (B), 161 (B), s.n. [1840] (Br, S); Maguire, Mendes Magalhães, & Maguire 49248 (N); Martius 954 (Mu--163), s.n. [21/55] (B), s.n. [Minas Novas] (Mu--164, Mu--165); Mello Barreto 2544 [Herb. Jard. Bot. Belo Horiz. 10688; Herb. U. S. Nat. Arb. 236383] (W--2109992). Paraná: Dombrowski 1264 [Saito 1079; Herb. Inst. Def. Pat. Nat. 9451] (Ac), 2213 [Kuniyoshi 1951] (Rf); Dombrowski, Saito, & Pereira 825/615/209 (Ac); Dusén 2714 (S), 7212, in part (S), 7265 (S, S), 11027 (S), s.n. [Curitiba, 24.2.1904] (S); Hatschbach 5131 (Sm), 5552 (Mm), 6907 (Mi), 8518 (Ca); Hatschbach & Lange 5297 (Sm); Lützelburg 6787 (Mu); Mattos 4266 (N); Reitz & Klein 17467 (Ac, N), 17908 (Ac); Smith, Klein, & Hatschbach 14564 (Ac). Rio Grande do Sul: Sellow s.n. [Rio des Pedras] (B, Br). Rio de Janeiro: G. Gardner 704 (M, N, S, W--937179, W--1066402); Glaziou 3619 (Br, W--1194909); Lützelburg 15505 (Mu). Santa Catarina: Rambo 31735 (S); Reitz 4921 [Herb. Barb. Rodr. 6340] (N, N); Reitz & Klein 5874 [Herb. Barb. Rodr. 16288] (N, S, Z). São Paulo: Brade 5528, in part (S), 6579 (Mu), 6589 (Mu), 12225 [Herb. Mus. Nac. Rio Jan. 30345] (S), 12229 [Herb. Mus. Nac. Rio Jan. 30341] (S); Burchell 3804 (Br), 4185 (Br); Guillemin 521 (B, Es, Ml, N, N, Qu, Ug, W--1112564, W--1473144); Herb. Hort. Oswaldo Cruz 4709 (Mu); Houlet s.n. [1839]

(Br); Lutz & Lutz 1218 [Herb. Lutz 1218] (Ja); Moldenke & Moldenke 19639 (Es, F, Lg, Mg, Mr, N, No, Ot, Qu, S, Sm, Ss); L. Riedel 1479 (B--isotype, M--isotype, Mu--166--isotype, N--photo of isotype, S--isotype, Ut--337--isotype, Z--photo of isotype); Segadas-Vianna 3075 (Ja), 3186 (Sm), 3187 (Sm); L. B. Smith 1992 (S). State undetermined: Glaziou 14358 (Br), 15535 (Br), 17312 (Br); Guillemin 239 (N, Qu); Martius s.n. (S); Schenck s.n. (B). BOLIVIA: La Paz: R. S. Williams 1487 (Ca--946334). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B).

LEIOTHRIX FLAVESCENS var. ALPINA Moldenke

Bibliography: Moldenke, Mem. N. Y. Bot. Gard. 9: 279. 1957; Moldenke, Résumé 71, 75, & 484. 1959.

This variety differs from the typical form of the species in having its leaves only 1.4--7 cm. long, very obscurely puberulent or glabrous and shiny on both surfaces, and the sheaths very obscurely puberulent or glabrous and shiny.

The type of the variety was collected by George Henry Hamilton Tate (no. 1109) at an altitude of 2200 meters on Mount Auyán-tepui, Bolívar, Venezuela, and is deposited in the Britton Herbarium at the New York Botanical Garden. G. H. H. Tate 434 is a mixture with Paepalanthus fraternus N. E. Br. Material of this variety has been misidentified and distributed in herbaria as typical L. flavescens (Bong.) Ruhl.

Citations: VENEZUELA: Bolívar: Cardona 2294 (Ve, W--1903499); Pannier & Schwabe s.n. [Auyantepui] (Ve); J. A. Steyermark 58849 (N); G. H. H. Tate 1109 (N--type, N--isotype). GUYANA: G. H. H. Tate 434, in part (N).

LEIOTHRIX FLAVESCENS var. GLABRA Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 291 & 399. 1928; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

Silveira (1928) describes this variety as follows: "Folia ab inicio glabra vel vix ciliolata" and names as the type a specimen collected by Dr. J. Michaeli "In cerro do Cipó", Minas Gerais, Brazil, in June, 1918, and no. 712 in the Silveira herbarium. On page 399 of the same work he gives "1908" as the date of collection of the type.

LEIOTHRIX FLEXUOSA Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 302, 304, & 399, pl. 189. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Worsdell, Ind. Lond. Suppl. 2: 38. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 189. 1928.

Silveira (1928) avers that this species is closely related to

L. arrecta Ruhl. and to L. michaelii Alv. Silv. He cites A. Silveira 673, collected at Chapada do Couto, Minas Geraes, Brazil, in 1918.

Citations: BRAZIL: Minas Gerais: Mello Barreto 8545 [Herb. Jard. Bot. Belo Horiz. 29023] (N).

LEIOTHRIX FLUITANS (Mart.) Ruhl.

Synonymy: Paepalanthus fluitans Mart. ex Körn. in Mart., Fl. Bras. 3 (1): 415, pl. 53, fig. 1. 1863. Dupatya fluitans (Mart.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Dupatya fluitans Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix fluitans Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908. Leiostrix aquatica Alv. Silv. ex Moldenke, Known Geogr. Distrib. Erioc. 8 & 42, nom. nud. 1946.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 415, 500, & 507, pl. 53, fig. 1. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 225--226 & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv., Fl. Mont. 1: 399. 1928; Ruhl. in Engl. & Prantl, Nat. Pflanzenfam., ed. 2, 15a: 54. 1930; Stapf, Ind. Lond. 4: 518. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; A. Castell. in Descole, Gen. & Sp. Pl. Argent. 3: 76 & 104. 1945; Moldenke, Known Geogr. Distrib. Erioc. 8, 9, 29, 43, & 48. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 2: 402. 1946; Moldenke, Alph. List Cit. 1: 412 (1946) and 3: 935. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 78, 79, & 207. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 92, 280, 325, & 484. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 2: 402. 1960.

Illustrations: Mart., Fl. Bras. 3 (1): pl. 53, fig. 1. 1863.

This taxon appears to be based on Wied-Neuwied s.n. and Martius s.n., both from Minas Gerais, Brazil -- the latter from "in rivis capidis ad fluv. S. Franc prope Salgado", doubtless deposited in the herbarium of the Staatsmuseum at Munich. Ruhland (1903) cites only these two original collections. The type of L. aquatica appears to be A. Silveira 549, also from Minas Gerais, deposited in the Marie-Victorin herbarium in the Montreal Botanical Garden, but the binomial does not appear ever to have been formally published by Silveira. In his 1928 work he cites A. Silveira 548, collected in the Serra do Cipó, Minas Gerais, in 1909, as L. fluitans.

Citations: BRAZIL: Minas Gerais: Martius s.n. [prope Salgado; Macbride photos 18736] (Mu--287--cotype, N--photo of cotype, W--photo of cotype); A. Silveira 549 (Mv--15837, N, Z--photo).

LEIOTHRIX FLUMINENSIS Ruhl.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 230, & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr.

Distrib. Verbenac., [ed. 2], 79. 1949; Moldenke, Résumé 92 & 484. 1959.

Ruhland (1903) cites only the type collection of this species, Glaziou 6745, from Rio de Janeiro, Brazil.

Citations: BRAZIL: Rio de Janeiro: Glaziou 5454 (B), 6745 [Macbride photos 10670] (B—type, N—photo of type, W—photo of type, Z—iso-type); Segadas-Vianna, Dau, Ormond, Machline, & Lorêdo 927 (N), 941 (N), 950 (N).

LEIOTHRIX FLUMINENSIS var. PUBERULA Moldenke

Bibliography: Moldenke, Phytologia 8: 162. 1962; Moldenke, Résumé Suppl. 3: 13. 1962; Hocking, Excerpt. Bot. A.6: 455. 1963.

This variety differs from the typical form of the species in having the leaves minutely puberulent throughout.

The type of the variety was collected by Jean Baptiste Antoine Guillemain (no. 239), who states that the plant was very abundant among Gaylussacia plants at Restinga de Tocaia [Rio de Janeiro? or São Paulo?], Brazil, and is deposited in the herbarium of the Muséum National d'Histoire Naturelle at Paris.

Citations: BRAZIL: State undetermined: Guillemain 239 [U. S. Nat. Herb. phot. distr. 5900] (N—photo of type, P—type).

LEIOTHRIX FULGIDA Ruhl.

Synonymy: Paepalanthus fulgidus Ruhl. ex Moldenke, Résumé Suppl. 1: 20, in syn. 1959.

Bibliography: Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 233, & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv., Fl. Mont. 1: 399. 1928; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Alph. List Cit. 3: 731. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 499. 1951; Moldenke, Résumé 92 & 484. 1959; Moldenke, Résumé Suppl. 1: 20. 1959.

Mexia found this plant growing in seepage among rocks at 1240 meters altitude, and says that it was abundant, with white inflorescences, flowering in May. Ruhland (1903) cites only the original type collection, Glaziou 20009, from Minas Gerais, Brazil. Silveira (1928) cites A. Silveira 532 from Diamantina, Minas Gerais, collected in 1908.

Additional citations: BRAZIL: Minas Gerais: Glaziou 20009, in part [Macbride photos 10671] (B—type, Br—iso-type, N—iso-type, N—photo of type, W—photo of type); Mexia 5882 (Er, Go, Mi, Qu, S, Ut—50249a, W—1571896).

LEIOTHRIX GLANDULIFERA Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 294 & 399. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

Silveira (1928) cites the type collection of this taxon as "In campis humidis arenosisque prope Itambé do Serro, Minas; Alvado

da Silveira, Apr. 1918, n. 671 in herbario Silveira" and notes that "Species propter pedunculos fasciculatos et indumentum glanduliferum a L. trifida Alv. Silv. valde similis, sed petalis floribus masculis facile distinguenda".

LEIOTHRIX GLAUCA Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 279 & 399, pl. 185. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Worsdell, Ind. Lond. Suppl. 2: 38. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 185. 1928.

The type and only known specimen of this species was collected by Álvaro Adolpho da Silveira (no. 837) "In campis arenosis inter Serrinha et Itacambira", Minas Gerais, Brazil, in July, 1926, and is deposited in the Silveira herbarium. On page 399 of his work (1928) Silveira adds "(Grão Mogol)" after "Serrinha" as part of the locality of collection.

LEIOTHRIX GOMESII Alv. Silv.

Synonymy: Leiothrix hirsuta var. magalhãesii Alv. Silv., Fl. Serr. Min. 70. 1908.

Bibliography: Alv. Silv., Fl. Serr. Min. 70. 1908; Alv. Silv., Fl. Mont. 1: 289 & 399. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Phytologia 2: 374 & 379 (1947) and 2: 492 & 495. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moacyr do Amaral Lisboa, Revist. Esc. Minas 9. April 1951; Moldenke, Phytologia 3: 499. 1951; Moldenke, Résumé 92, 309, & 484. 1959.

The type of this species was collected by Francisco Magalhães Gomes (no. 827) -- in whose honor both this species' and its synonym's nomenclatural designations are derived -- "in campis in Serra do Capanema", Minas Gerais, Brazil, in March, 1893, and is deposited in the Magalhães Gomes herbarium. Silveira (1928) cites also A. Silveira 526 from "in campis altis inter Caraca et Capanema", collected in April, 1909, and deposited in the Silveira herbarium. He comments "Ob errore proveniente ex descriptione speciminis differentis et infeliciter permutati, haec species distinctissima habet in opera Flora e Serras Mineiras cujus auctore sum, nomen quod ei non convenit". On page 399 of this same 1928 work he cites the second collection as "Serra do Capanema, n. 526, Mag. Gomes, 1906".

LEIOTHRIX GOUNELLEANA Beauverd

Synonymy: Leiothrix gounelleana P. Beauv. apud Stapf, Ind. Lond. 4: 67. 1930. Leiothrix gounelliana Beauverd ex Moldenke, Known Geogr. Distrib. Erioc. 43, sphalm. 1946.

Bibliography: Beauverd, Bull. Herb. Boiss., sér. 2, 8: 296 & 298, fig. 12 C. 1908; Prain, Ind. Kew. Suppl. 4, pr. 1, 138.

1913; Stapf, Ind. Lond. 4: 67. 1930; Moldenke, Known Geogr. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Prain, Ind. Kew. Suppl. 4, pr. 2, 138. 1958; Moldenke, Résumé 92 & 484. 1959.

Illustrations: Beauverd, Bull. Herb. Boiss., sér. 2, 8: 296, fig. 12 C. 1908.

The abbreviation which Stapf (1930) employs for the author of this binomial is one usually used for Ambroise Marie François Joseph Palisot de Beauvois (1752--1820), whereas this binomial was actually proposed by Gustave Beauverd (1867--1942). How Stapf could have made this error in accreditation is very difficult to comprehend.

LEIOTHRIX GRAMINEA (Bong.) Ruhl.

Synonymy: Eriocaulon gramineum Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 627. 1831. Paepalanthus gramineus (Bong.) Kunth, Enum. Pl. 3: 523--524. 1841. Paepalanthus gramineus Kunth apud Körn. in Mart., Fl. Bras. 3 (1): 428, 507, & 508. 1863. Dupatya graminea (Bong.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Dupatya graminea Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix graminea Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908.

Bibliography: Bong., Ess. Monog. Erioc. 27. 1831; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 627 (1831) and 3: 557, pl. 26. 1835; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 523--524, 574, 575, 613, & 625. 1841; D. Dietr., Syn. Pl. 5: 262. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 279 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 295, 296, 428--429, 507, & 508. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 878 (1893) and 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 234, 285, & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Alv. Silv., Fl. Mont. 1: 284. 1928; Stapf, Ind. Lond. 3: 90. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9, 30, 35, 43, & 49. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 878 (1946) and 2: 402. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 92, 280, 288, 325, & 484. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 878 (1960) and 2: 402. 1960.

Illustrations: Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 3: pl. 26. 1835.

Kunth (1841) comments concerning this species "Conf. P. paludoso et nigro-niveo", taxa now known as Paepalanthus freyreysii (Thunb.) Körn. and P. tortilis (Bong.) Mart. Silveira (1928) informs us that, in his opinion, at least, L. graminea is closely related to L. barreirensis Alv. Silv. Ruhland (1903) cites only the original type collection, L. Riedel 1039, and Sena s.n. [Herb. Schwacke 14147], both from Minas Gerais, Brazil.

Citations: BRAZIL: Minas Gerais: L. Riedel 1039 (B—isotype, Z—isotype). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B).

LEIOTHRIX HETEROPHYLLA Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 300 & 399, pl. 187. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Worsdell, Ind. Lond. Suppl. 2: 38. 1941; Moldenke, Known Geogr. Distrib. Ericoc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 187. 1928.

Silveira (1928) tells us that the type collection of this species was found "Secus margines capoeiras prope Itacambira, Minas Geraes: Alvado da Silveira Jul. 1926, no. 849, in herbario Silveira. Species ob folia capitulorum albo-lanata certe distincta".

LEIOTHRIX HIRSUTA (Wikstr.) Ruhl.

Synonymy: Eriocaulon hirsutum Wikstr., Svensk. Vet. Acad. Handl., ser. 2, 1820: 79, pl. 4. 1820. Paepalanthus hirsutus (Wikstr.) Kunth, Enum. Pl. 3: 530. 1841. Eriocaulon hirsutum Wikstr. & Bong. apud Kunth, Enum. Pl. 3: 577, in syn. 1841. Eriocaulon separatum Steud., Syn. Pl. Glum. 2: [Cyp.] 280. 1855. Paepalanthus hirsutus Kunth apud Körn. in Mart., Fl. Bras. 3 (1): 278, 295, 296, 421, & 507. 1863. Dupatya hirsuta (Wikstr.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Dupatya hirsuta Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix hirsuta Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908. Eriocaulon xyrioides St. Hil., in herb.

Bibliography: Wikstr., Svensk. Vet. Acad. Handl., ser. 2, 1820: 79, pl. 4. 1820; Roem. & Schult. in L., Mant. 2: 468. 1824; Spreng. in L., Syst. Veg., ed. 16, 3: 776. 1826; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 632. 1831; Bong., Ess. Monog. Ericoc. 5 & 32. 1831; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 530, 577, 613, & 625. 1841; D. Dietr., Syn. Pl. 5: 262. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 280 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 278, 295, 296, 421—422, & 507, pl. 55, fig. 3. 1863; Kuntze, Rev. Gen. Pl. 2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 878 & 879 (1893) and 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 227, 229—230, & 286—288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Lützelburg, Estud. Bot. Nordéste 3: 147 & 150. 1923; Alv. Silv., Fl. Mont. 1: 399. 1928; Stapf, Ind. Lond. 3: 90. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Ericoc. 9, 28, 30, 35, 40, 43, 45, & 49. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 878 & 879 (1946) and 2: 402. 1946; Moldenke, Phytologia 2: 374 & 379 (1947) and 2: 492 & 495. 1948; Moldenke, Alph. List Cit. 4: 1176. 1949; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 499. 1951; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Mol-

denke, Résumé 92, 280, 289, 292, 323, & 484. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 878 & 879 (1960) and 2: 402. 1960.

Illustrations: Wikstr., Svensk. Vet. Acad. Handl., ser. 2, 1820: pl. 4. 1820.

Kunth (1841) cites for this taxon only specimens collected by Friedrich Sellow in "Brasilia meridionalis. (Inter Rio Haneiro et Campos et inter Vittoria et Bahia.....)", but actually the species is based on Freyreiss 3, deposited in the herbarium of the Naturhistoriska Riksmuseet at Stockholm and the label merely inscribed "Brasilia". Kunth notes "Specimen inter Vittoria et Bahia lectum paulo majus, folia 5-7-pollicaria, pedunculi 11-14-pollicares" as compares with the other material which he describes as "Folia 4-5-pollicaria.....Pedunculi 7-10-pollicares". Ruhland (1903) cites no material at all, but avers that the species grows in Bahia and Minas Gerais, Brazil. Silveira (1928) cites J. Michaeli 618, collected in Bahia in 1912.

Recent collectors have found the plant growing on grassy campos and the inner restinga, flowering and fruiting in May, July, and September.

Leiothrix hirsuta var. magalhãesii Alv. Silv. is now known as L. gomesii Alv. Silv., which see.

Material of L. hirsuta has been misidentified and distributed in herbaria as L. hirsuta var. blanchetiana Körn.) Ruhl.

Additional citations: BRAZIL: Bahia: A. P. Duarte 5937 [Herb. Brad. 15442] (Lw); Lützelburg 335 (Mu), 465 (Mu, N), 465a (Mu, W-1716262); Sellow s.n. [Vittoria] (B). Guanabara: N. Santos 5220 [234-1] (Ja), 5240 [235-1] (Ja, Ja, Ja), 5250 [235-1] (Ac, Ja), 5379 [244-1] (Ja, Ja, Ja, Ja), 5408 (Ac, Ja, Ja, Ja, Ja, Ja, Ja, Ja, Ja, Ja); Strang 327 [Herb. Cent. Pesq. Florest. 1093] (Ac). Minas Gerais: Martius s.n. [Va. Ricca -- Tejuco, prope fluv. Belmonte] (Mu-169). Rio de Janeiro: Houillet s.n. [Sebastianopoli 1839] (Br); H. F. Martins 96 [Herb. Cent. Pesq. Florest. 84] (Ac); L. Riedel 555 (B, S, Ut-338); Segadas-Vianna, Dau, Ormond, Machline, & Lorêdo 363 (Z), 921 (Sm); Sellow 110 (B). State undetermined: Collector undetermined 618 (S); Freyreiss 4 (F-photo of type, N-photo of type, S-type, Z-photo of type); J. E. Pohl s.n. (Mu-170). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B).

LEIOTHRIX HIRSUTA var. BLANCHETIANA (Körn.) Ruhl.

Synonymy: Paepalanthus blanchetianus Körn. in Mart., Fl. Bras. 3 (1): 421-422, pl. 55, fig. 3. 1863. Dupatya blanchetiana (Körn.) Kuntze, Rev. Gen. Pl. 2: 745. 1891. Dupatya blanchetiana Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 278, 294, 297, 308, 422, 500, & 507, pl. 55, fig. 3. 1863; Kuntze, Rev. Gen. Pl.

2: 745. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 227, 230, & 288. 1903; Alv. Silv., Fl. Mont. 1: 399. 1928; Stapf, Ind. Lond. 4: 518. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9, 28, 43, 45, & 49. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 2: 402. 1946; Moldenke, Phytologia 2: 495. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Alph. List Cit. 4: 1176. 1949; Moldenke, Phytologia 3: 499. 1951; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 92, 279, 309, 323, & 484. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 2: 402. 1960.

Illustrations: Körn. in Mart., Fl. Bras. 3 (1): pl. 55, fig. 3. 1863.

This variety is based on Blanchet 2598, collected in the Serra da Jacobina, Bahia, Brazil, and deposited in the herbarium of the Botanisches Museum at Berlin. Ruhland (1903) cites only the type collection. Silveira (1928) cites J. Michaeli 617, collected in Bahia in 1912.

Belem describes this plant as 20 cm. tall, with white inflorescence heads, flowering and fruiting in July. Material of the variety has been misidentified and distributed in herbaria under the name Paepalanthus xyrioides St. Hil. On the other hand, the Lützelburg 465 and L. Riedel 555, distributed as this variety, are actually typical L. hirsuta (Wikstr.) Ruhl.

Additional citations: BRAZIL: Bahia: Belem 3895 (N); Belem & Pinheiro 2432 (Z); Blanchet 2598 (B--type, Br--isotype, Mi--isotype, N--isotype, N--photo of isotype, Ut--422--isotype, Z--photo of isotype). Rio de Janeiro: Luschnath s.n. [Campos St. João, Martio 1834] (Br), s.n. [Playa Sernambativa, Martio 1834] (Br); Schüch s.n. [Sebastianopoli 1844] (Br). State undetermined: Houllet s.n. [Brasil 1842] (Br); Sellow s.n. (Br). MOUNTED ILLUSTRATIONS: drawings & notes by Körnicke (B, B).

LEIOTHRIX HIRSUTA var. OBTUSA Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 291. 1928; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

Silveira (1928) describes this variety as "A forma typica differt foliis obtusis et vaginis 12--20 cm. longis, illa subaequantibus. In campis locis nigro-argillosis humidisque prope Quartel in via ad Diamantina: Alv. Silv. Apr. 1908; n. 612 in herbario Silveira". As of this writing, the taxon is known only from the original collection in Minas Gerais, Brazil.

LEIOTHRIX ITACAMBIRENSIS Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 307 & 399, pl. 194. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Worsdell, Ind.

Lond. Suppl. 2: 38. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 194. 1928.

Silveira (1928) cites the type of this species as "In campis secus margines rivulorum inter Serrinha et Itambira, Minas Geraes, Alvaro da Silveira Jul. 1926; n. 835 in herbario Silveira". As of this writing, the species is known only from this original collection.

LEIOTHRIX LANIFERA Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 295 & 399. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

The type and only known collection of this species is A. Silveira 738 from "In humidis prope Lagoa do Ferro", Minas Gerais, Brazil, collected in September, 1924, and deposited in the Silveira herbarium. Of it Silveira (1928) says "Species ab omnibus affinibus ob vestimenta basis foliorum valde distincta". On page 399 of his work he adds "(Patrocínio)" to his description of the locality of collection.

LEIOTHRIX LINEARIS Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 298 & 399. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

The species is known thus far only from the original type collection, A. Silveira 544, from the Serra do Cipó in Minas Gerais, Brazil, and deposited in the Silveira herbarium.

LEIOTHRIX LONGIPES Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 303--304 & 400. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Worsdell, Ind. Lond. Suppl. 2: 38. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 499. 1951; Moldenke, Résumé 92 & 484. 1959; Rennó, Levant. Herb. Inst. Agron. 69. 1960.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 190. 1928.

The type of this species was collected by Dr. J. Michaeli "In campis arenosis in Serra do Cipó", Minas Gerais, Brazil, in June, 1918, and is no. 228 in the Silveira herbarium. Silveira (1928) comments that "Species ab sectionibus Stephanophyllum Ruhl. facile distinguenda et valde insignis".

LEIOTHRIX LUXURIANS (Körn.) Ruhl.

Synonymy: Paepalanthus luxurians Körn. in Mart., Fl. Bras. 3 (1): 418, pl. 54. 1863. Dupatya luxurians (Körn.) Kuntze, Rev. Gen. Pl. 2: 746. 1891. Dupatya luxurians Kuntze apud Durand &

Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix luxurians
Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908.

Bibliography: Körn. in Mart., Fl. Bras. 3 (1): 418, 419, 500,
& 507, pl. 54. 1863; Kuntze, Rev. Gen. Pl. 2: 746. 1891; Jacks.
in Hook. f. & Jacks., Ind. Kew., pr. 1, 2: 402. 1894; Durand &
Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl.,
Pflanzenreich 13 (4-30): 235-237 & 288, fig. 34. 1903; Prain,
Ind. Kew. Suppl. 3: 101. 1908; Ruhl. in Engl. & Prantl, Nat.
Pflanzenfam., ed. 2, 15a: 41 & 54. 1930; Alv. Silv., Fl. Mont. 1:
400. 1928; Stapf, Ind. Lond. 4: 518. 1930; Durand & Jacks., Ind.
Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib.
Erioc. 9, 40, 43, & 50. 1946; Jacks. in Hook. f. & Jacks., Ind.
Kew., pr. 2, 2: 402. 1946; Moldenke, Known Geogr. Distrib. Verben-
ac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 499. 1951;
Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke,
Résumé 92, 281, 326, & 484. 1959; Rennó, Levant. Herb. Inst. Agron.
69. 1960; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 2:
402. 1960.

Illustrations: Körn. in Mart., Fl. Bras. 3 (1): pl. 54. 1863;
Ruhl. in Engl., Pflanzenreich 13 (4-30): 236, fig. 34. 1903.

Ruhland (1903) cites only Martius s.n. from Minas Gerais, Bra-
zil, for this species. Martius says of the habitat in which he
found it "parsim locis editis siccioribus subinde inundatis".
Silveira (1928) cites A. Silveira 634, collected at Diamantina,
Minas Gerais, in 1916. Irwin and his associates describe the
plant as a "rosette herb, the inflorescence to 5 cm. tall, in
sandy campo, steep sandy slopes with sandy outcrops at summit",
growing at an altitude of 1300 meters. Material has been mis-
identified and distributed in herbaria under the name Paepalan-
thus prolifer Körn.

Additional citations: BRAZIL: Minas Gerais: Archer & Mello
Barreto 4955 [Herb. U. S. Nat. Arb. 177519] (W-2121760); Irwin,
Maxwell, & Wasshausen 20168 (N, Z); Martius s.n. [Serro Frio]
(Mu-148-cotype), s.n. (Mu-284-cotype, Mu-285-cotype, Mu-
286-cotype); Mello Barreto 2512 [Herb. Jard. Bot. Belo Horiz.
8300] (N); Mendes Magalhães 2099 [Herb. Jard. Bot. Belo Horiz.
42504] (N, Ug), 2323 [Herb. Jard. Bot. Belo Horiz. 43373] (N);
J. E. Pohl s.n. [in Brasilia] (Mu-147).

LEIOTHRIX MENDESII Moldenke

Bibliography: Moldenke, Phytologia 3: 313-314. 1950; E. J.
Salisb., Ind. Kew. Suppl. 11: 133. 1953; Moldenke, Résumé 92 &
484. 1959; Rennó, Levant. Herb. Inst. Agron. 69. 1960.

Citations: BRAZIL: Minas Gerais: Mendes Magalhães 4345 [Herb.
Jard. Bot. Belo Horiz. 45189] (N-type).

LEIOTHRIX MICHAELII Alv. Silv.

Synonymy: Leiothrix michellii Moldenke ex Mendes Magalhães,
Anais V Reun. Anual Soc. Bot. Bras. 234, sphalm. 1956. Leiothrix

michaeli Alv. Silv. ex Moldenke, Résumé 309, in syn. 1959.

Bibliography: Alv. Silv., Fl. Mont. 1: 304 & 400, pl. 191. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Worsdell, Ind. Lond. Suppl. 2: 38. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Phytologia 2: 495. 1948; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Mendes Magalhães, Anais V Reun. Anual Soc. Bot. Bras. 234 & 303. 1956; Moldenke, Résumé 92, 309, & 484. 1959.

Illustrations: Alv. Silv., Fl. Mont. 1: pl. 191. 1928.

The type of this species was collected by Dr. J. Michaeli -- in whose honor it is named -- "In campis prope Araxa", Minas Gerais, Brazil, in 1919, and is no. 713 in the Silveira herbarium. Silveira (1928) says of the species "Ab affinibus L. flexuosa Alv. Silv. et L. arrecta Ruhl. Vaginis foliisque molliter denseque pubescentibus facile distinguenda".

LEIOTHRIX MICHAELII var. LONGIPILOSA Moldenke

Synonymy: Leiothrix michellii var. longipilosa Moldenke ex Mendes Magalhães, Anais V Reun. Anual Soc. Bot. Bras. 234 & 303, sphalm. 1956.

Bibliography: Moldenke, Phytologia 3: 311. 1950; Mendes Magalhães, Anais V Reun. Anual Soc. Bot. Bras. 234 & 303. 1956; Moldenke, Résumé 92, 309, & 484. 1959; Rennó, Levant. Herb. Inst. Agron. 69. 1960.

This variety differs from the typical form of the species in having its peduncles densely long-pilose with hairs borne at right angles to the peduncles and grayish-flavoidous in color. It has been collected in flower and fruit in August and thus far is known only from the original collection.

Citations: BRAZIL: Minas Gerais: Archer & Mello Barreto 4955 [Herb. Jard. Bot. Belo Horiz. 17520] (N--type).

LEIOTHRIX MILHO-VERDENSIS Alv. Silv.

Bibliography: Alv. Silv., Fl. Mont. 1: 291--292 & 400. 1928; A. W. Hill, Ind. Kew. Suppl. 9: 156. 1938; Moldenke, Known Geogr. Distrib. Erioc. 9 & 43. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Résumé 92 & 484. 1959.

The type and only known collection of this species was made by Alvaro da Silveira (no. 754) "In campis siccis arenosisque prope Vilho Verde, in Serra Geral", Minas Gerais, Brazil, in June, 1925, and is deposited in the Silveira herbarium.

LEIOTHRIX MUCRONATA (Bong.) Ruhl.

Synonymy: Eriocaulon mucronatum Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 626. 1831. Paepalanthus ? mucronatus (Bong.) Kunth, Enum. Pl. 3: 523. 1841. Paepalanthus ? mucronatus Kunth, Enum. Pl. 3: 574 & 625. 1841. Paepalanthus mucronatus Kunth apud Körn. in Mart., Fl. Bras. 3 (1): 427, 463, 507, & 508. 1863. Dupatya mucronata (Bong.) Kuntze, Rev. Gen. Pl. 2: 746.

1891. Dupatya mucronata Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix mucronata Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908.

Bibliography: Bong., Ess. Monog. Erioc. 26--27. 1831; Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 1: 626 & 627 (1831) and 2: 234--235, pl. 19, fig. 1--3. 1832; Steud., Nom. Bot., ed. 2, 1: 585. 1840; Kunth, Enum. Pl. 3: 522, 523, 574, 613, & 625. 1841; D. Dietr., Syn. Pl. 5: 261--262. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 279 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 427--428, 463, 507, & 508. 1863; Kuntze, Rev. Gen. Pl. 2: 746. 1891; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 878 (1893) and 2: 402. 1894; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902; Ruhl. in Engl., Pflanzenreich 13 (4-30): 228, 232--233, 286, & 288. 1903; Prain, Ind. Kew. Suppl. 3: 101. 1908; Stapf, Ind. Lond. 3: 91. 1930; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 2, 145. 1941; Moldenke, Known Geogr. Distrib. Erioc. 9, 30, 37, 43, & 51. 1946; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 2, 1: 878 (1946) and 2: 402. 1946; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 79 & 207. 1949; Moldenke, Phytologia 3: 499. 1951; Durand & Jacks., Ind. Kew. Suppl. 1, pr. 3, 145. 1959; Moldenke, Résumé 92, 281, 290, 326, & 484. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 3, 1: 878 (1960) and 2: 402. 1960.

Illustrations: Bong., Mém. Acad. Imp. Sci. St. Pétersb., sér. 6, 2: pl. 19, fig. 1--3. 1832.

The type of this species was collected "In humidis, glareosis Meia da Serra da Lapa", Minas Gerais, Brazil, by Ludwig Riedel (no. 1411) and is deposited in the Leningrad herbarium. The species is said to be closely related to L. curvifolia (Bong.) Ruhl. Ruhland (1903) cites only the type collection, L. Riedel 1411, and Langsdorff s.n., both from Minas Gerais.

Material has been misidentified and distributed in herbaria under the name Eriocaulon saxatile Bong.

Citations: BRAZIL: Minas Gerais: P. Clausen s.n. [Aug.--April 1840] (Br), s.n. (Br, N).

LEIOTHRIX NUBIGENA (Kunth) Ruhl.

Synonymy: Paepalanthus nubigena Kunth, Enum. Pl. 3: 538--539 & 625. 1841. Eriocaulon nubigenum Kunth ex D. Dietr., Syn. Pl. 5: 263. 1852. Eriocaulon nubigerum Kunth ex Steud., Syn. Pl. Glum. 2: [Cyp.] 334, sphalm. 1855. Dupatya nubigena (Kunth) Kuntze, Rev. Gen. Pl. 2: 746. 1891. Eriocaulon nubigenum Steud. apud Jacks. in Hook. f. & Jacks., Ind. Kew., pr. 1, 1: 879. 1893. Dupatya nubigena Kuntze apud Durand & Jacks., Ind. Kew. Suppl. 1, pr. 1, 145. 1902. Leiothrix nubigena Ruhl. apud Prain, Ind. Kew. Suppl. 3: 101. 1908.

Bibliography: Kunth, Enum. Pl. 3: 538--539 & 625. 1841; D. Dietr., Syn. Pl. 5: 263. 1852; Steud., Syn. Pl. Glum. 2: [Cyp.] 281 & 334. 1855; Körn. in Mart., Fl. Bras. 3 (1): 309, 420, 500, & 507, pl. 55, fig. 2. 1863; Kuntze, Rev. Gen. Pl. 2: 746. 1891.